EquipmentWatch™ MARKET REPORT™

FEBRUARY 23, 2017
VERSION: FREE | UPDATED MONTHLY

MARKET DATA: JANUARY 2017

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

$29,107,693,501

RESALE
$29,088,590,944
387,137 Assets

AUCTION
$19,102,557
983 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		PRICE STABILITY INDEX ™
CONSTRUCTION		VALUES ▲ 0.1% FMV	▼ 2.9% FLV	VALUES ▲ 5.0% FMV	▲ 5.0% FLV	105.87 (95 – 105; DEFLATED / STABLE / INFLATED)
$15,383,534,014 MARKET VALUE	175,254 ASSETS	VOLUME ▲ 12.6% RESALE	▼ 40.0% AUCTION	VOLUME ▼ 5.1% RESALE	▼ 93.4% AUCTION	
LIFT/ACCESS		VALUES ▼ 6.1% FMV	▼ 6.6% FLV	VALUES ▼ 1.5% FMV	▼ 1.7% FLV	102.50 (95 – 105; DEFLATED / STABLE / INFLATED)
$1,147,294,921 MARKET VALUE	35,506 ASSETS	VOLUME ▼ 32.8% RESALE	▼ 9.1% AUCTION	VOLUME ▼ 11.3% RESALE	▼ 97.5% AUCTION	
AGRICULTURE		VALUES ▼ 9.5% FMV	▼ 9.5% FLV	VALUES ▲ 1.6% FMV	▲ 1.6% FLV	107.46 (95 – 105; DEFLATED / STABLE / INFLATED)
$10,096,521,953 MARKET VALUE	122,893 ASSETS	VOLUME ▲ 49.0% RESALE	▼ 19.2% AUCTION	VOLUME ▼ 13.3% RESALE	▼ 88.2% AUCTION	
COMMERCIAL TRUCK		VALUES ▼ 6.8% FMV	▼ 7.2% FLV	VALUES ▲ 5.5% FMV	▲ 0.1% FLV	95.80 (95 – 105; DEFLATED / STABLE / INFLATED; 95 96 97 98 99 10 11 12 13 14 15)
$2,480,342,613 MARKET VALUE	54,467 ASSETS	VOLUME ▼ 1.56% RESALE	▼ 4.3% AUCTION	VOLUME ▲ 23.2% RESALE	▼ 92.8% AUCTION	

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NEXT CONSTRUCTION OVERALL

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CONSTRUCTION

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$15,383,534,014 MARKET VALUE

175,254 ASSETS

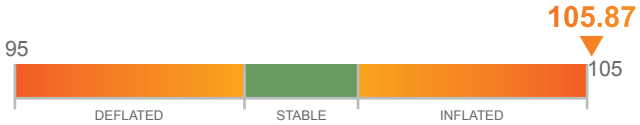
YEAR OVER YEAR — MARKET METRICS

	FMV	FLV
VALUES	▲ 0.1%	▼ 2.9%
VOLUME	▲ 12.6% RESALE	▼ 40.0% AUCTION

MONTH OVER MONTH — MARKET METRICS

	FMV	FLV
VALUES	▲ 5.0%	▲ 5.0%
VOLUME	▼ 5.1% RESALE	▼ 93.4% AUCTION

MONTH OVER MONTH — PRICE STABILITY INDEX ™



MARKET PERFORMANCE

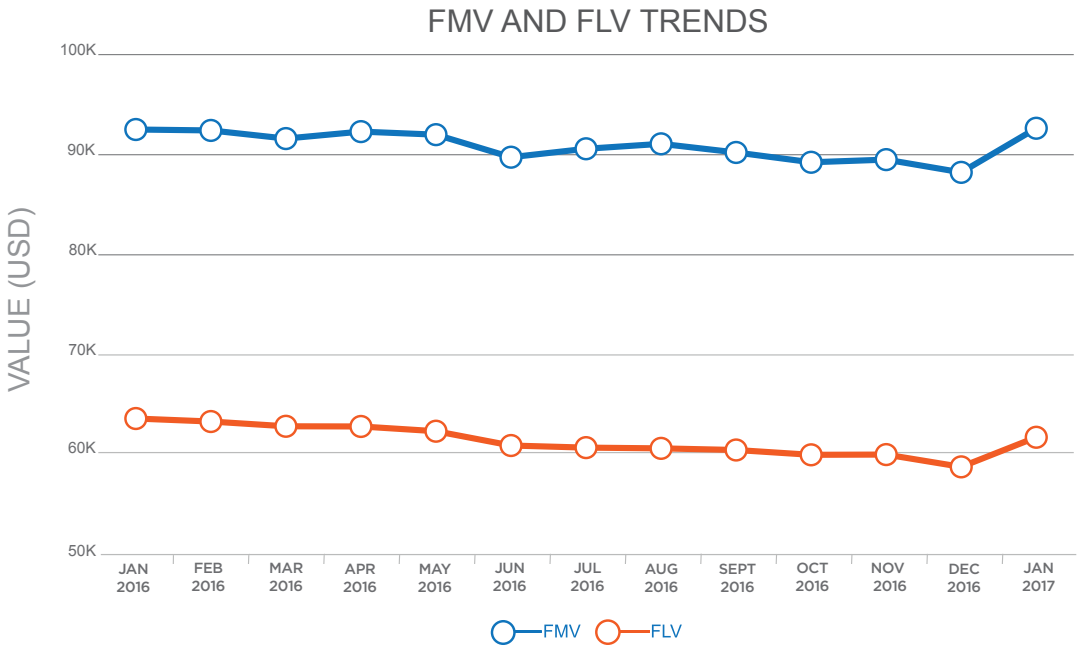
January 2017 witnessed a pretty dramatic increase in average FMV and FLV, as new 2017 model year equipment really began to hit the market. This change pushed the Price Stability Index™ into the upper bounds of an Inflated rating. Additionally, tightening supply of assets sold at auction forced average FLV higher than usual.

MARKET HIGHLIGHTS

- Average equipment age on the resale channel dropped 7.5% from December 2016 to January 2017 alongside a 7.2% decline in average usage.
- A large decrease in month over month auction activity was expected in January, but the 40% decline in January 2017 from January 2016 may be an indicator that auctioneers are banking on a much larger mega-auction turnout in February and March.
- Although both average FMV and FLV increased by approximately 5% from December 2016 to January 2017, average FMV was only 0.1% lower in January 2016 and average FLV was 2.9% higher in January 2016.

MARKET FORECAST

We anticipate that the sharp increases brought by the new year will be diminished slowly within the next four months. We expect the auction channel to explode with high activity over the next two months as buyers and sellers head to mega auctions in Florida and elsewhere.



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 5.1% RESALE	▼ 93.4% AUCTION	▼ 7.5% RESALE	▲ 10.0% AUCTION	▼ 7.2% RESALE	▼ 19.6% AUCTION
YEAR OVER YEAR	▲ 12.6% RESALE	▼ 40.0% AUCTION	▼ 0.8% RESALE	▼ 1.6% AUCTION	▼ 14.1% RESALE	▲ 6.2% AUCTION

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CONSTRUCTION
NEXT TYPE TRENDS

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LIFT/ACCESS

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$1,147,295,221 MARKET VALUE

35,506 ASSETS

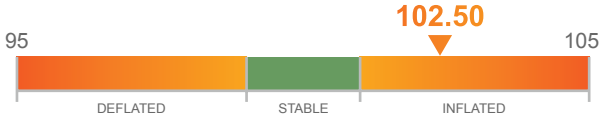
YEAR OVER YEAR — MARKET METRICS

	FMV	FLV
VALUES	▼ 6.1%	▼ 6.6%
VOLUME	▼ 32.8% RESALE	▼ 9.1% AUCTION

MONTH OVER MONTH — MARKET METRICS

	FMV	FLV
VALUES	▼ 1.5%	▼ 1.7%
VOLUME	▼ 11.3% RESALE	▼ 97.5% AUCTION

MONTH OVER MONTH — PRICE STABILITY INDEX ™



MARKET PERFORMANCE

Lift values declined by a little over 1% in January, this is due in the most part to a larger decrease in the larger type of I.C. Pneumatic Tire Fork Lifts. Volume decreased across both channels, with FLV market activity almost at zero.

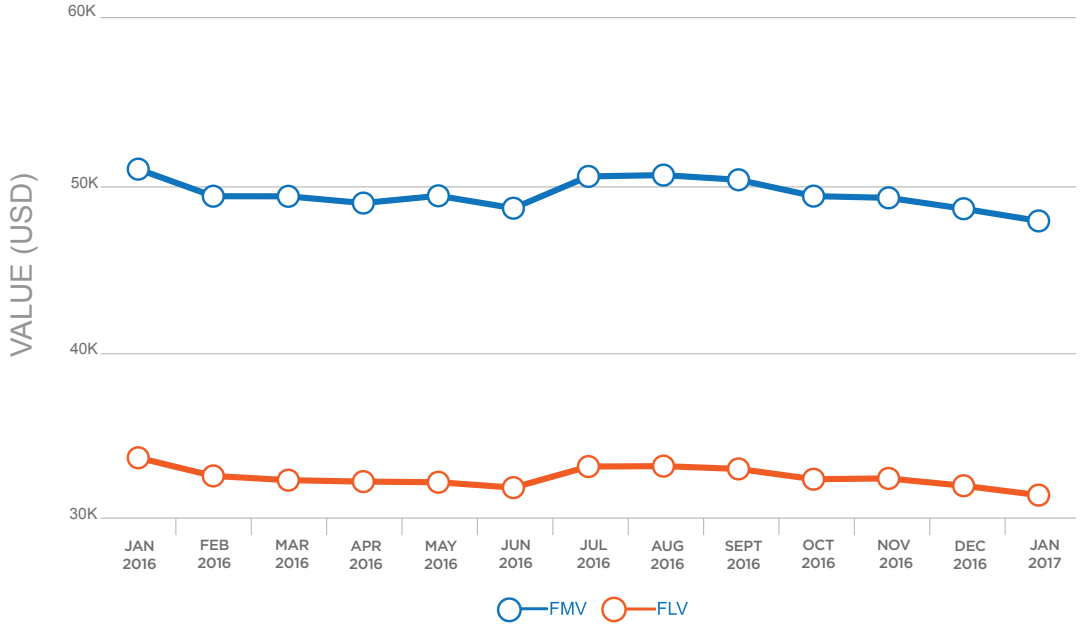
MARKET HIGHLIGHTS

- FMV and FLV market activity increased in January, this is most likely in anticipation of the busy February auctions that take place.
- Average age and usage decreased in the resale channel in January.
- The Price Stability Index™ was the highest since the indroduction of the Market Report. This was due most to the addition of 2017 values and the deletion of 1997 values.

MARKET FORECAST

We should expect to see values decrease slightly in February, while FLV market activity will increase dramatically.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 11.3% RESALE	▼ 97.5% AUCTION	▼ 2.0% RESALE	▲ 16.5% AUCTION	▼ 2.6% RESALE	▲ 18.7% AUCTION
YEAR OVER YEAR	▼ 32.8% RESALE	▼ 9.1% AUCTION	▼ 9.9% RESALE	▲ 3.4% AUCTION	▲ 6.2% RESALE	▲ 51.0% AUCTION

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LIFT/ACCESS
NEXT TYPE TRENDS

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AGRICULTURE

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$10,096,521,953 MARKET VALUE

122,893 ASSETS

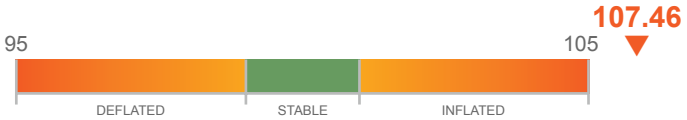
YEAR OVER YEAR — MARKET METRICS

	FMV	FLV
VALUES	▼ 9.5%	▼ 9.5%
VOLUME	▲ 49.0% RESALE	▼ 19.2% AUCTION

MONTH OVER MONTH — MARKET METRICS

	FMV	FLV
VALUES	▲ 1.6%	▲ 1.6%
VOLUME	▼ 13.3% RESALE	▼ 88.2% AUCTION

MONTH OVER MONTH — PRICE STABILITY INDEX ™



MARKET PERFORMANCE

Even though the resale channel saw a drop in volume in January from December, there was a year over year increase of almost 50%. Both the month over month and year over year changes coincided with the FMV changes during January as they dropped year over year and increased month over month. This shows an increase in confidence for the agriculture market over the start of 2016.

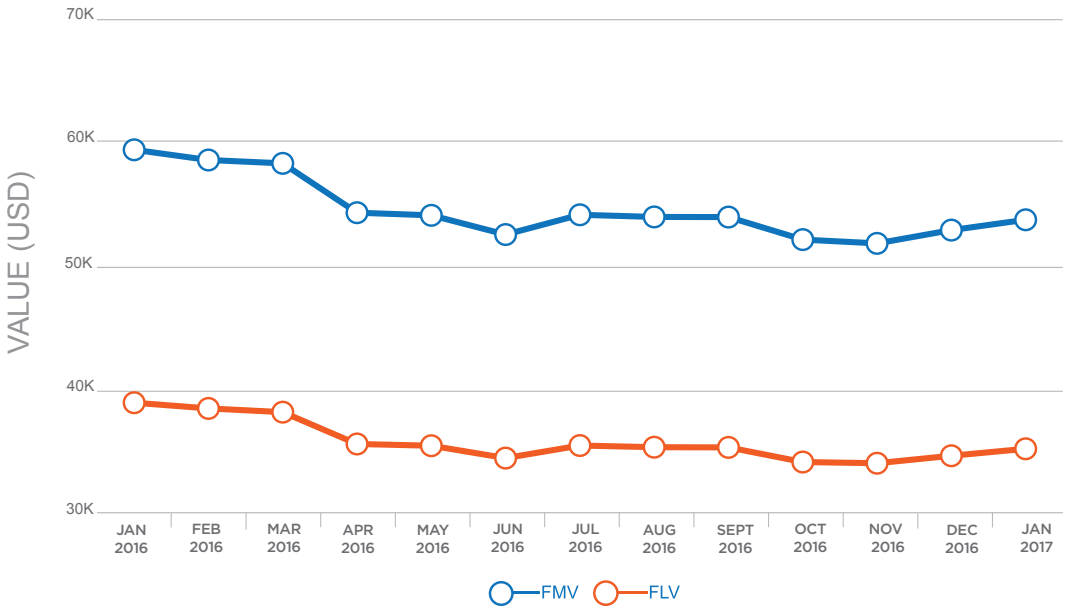
MARKET HIGHLIGHTS

- The Price Stability Index indicates an inflated market for January as FMV continued to increase into January, but only by 1.6% with a drop in volume..
- As we enter a new year, it comes as no surprise that average age increased for both the auction and resale channels, but reiterating the confidence in the ag market, there was a 6.5% drop in average age year over year indicating more young models entering the used market.
- Average usage decreased by 16% on the resale channel from December to January, but average age for the same equipment increased marginally by 0.1%. This indicates that much more heavily used (and maybe lower condition) equipment was available in January.

MARKET FORECAST

If FMV and FLV continue to increase on agriculture equipment, the market could return to values closer to what were seen before the drop that began back in August considering FMV is already closer to September values than we've seen in a few months.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 13.3% RESALE	▼ 88.2% AUCTION	▲ 0.1% RESALE	▲ 21.7% AUCTION	▼ 16.2% RESALE	▲ 10.8% AUCTION
YEAR OVER YEAR	▲ 49.0% RESALE	▼ 19.2% AUCTION	▼ 6.5% RESALE	▲ 32.4% AUCTION	▼ 8.6% RESALE	▲ 35.7% AUCTION

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AGRICULTURE
NEXT TYPE TRENDS

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COMMERCIAL TRUCK

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$2,480,342,613 MARKET VALUE

54,467 ASSETS

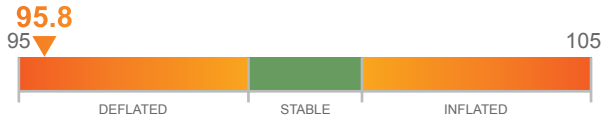
YEAR OVER YEAR MARKET METRICS

	FMV	FLV
VALUES	▼ 6.8%	▼ 7.2%
VOLUME	▼ 1.6% RESALE	▼ 4.3% AUCTION

MONTH OVER MONTH MARKET METRICS

	FMV	FLV
VALUES	▲ 5.5%	▲ 0.1%
VOLUME	▲ 23.2% RESALE	▼ 92.8% AUCTION

PRICE STABILITY INDEX ™



MARKET PERFORMANCE

As 2017 models enter the used trucking market and the number of 2013-2011 models increased, FMV and FLV both increased going into January. This also had a strong impact on average ages as the volume for newer model years increased compensating for a new year thus not shifting average age significantly as one would assume in a new year. The average usage however increased with the change in asset mix as the resale channel volume increased for the month.

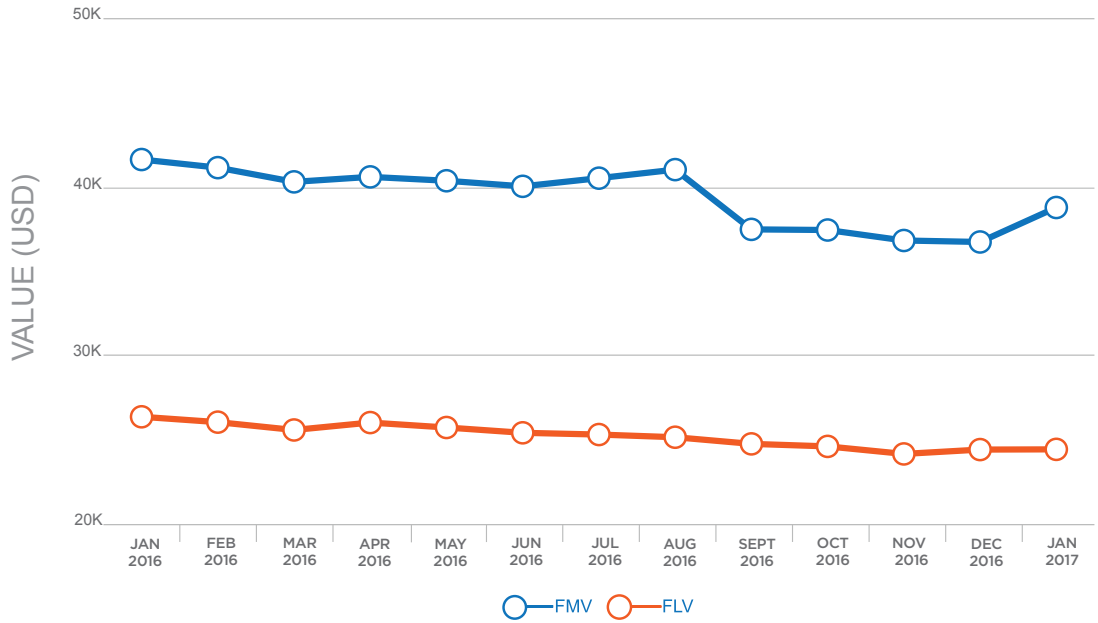
MARKET HIGHLIGHTS

- Even though the average age on the resale channel dropped year over year, the average usage increased over 20%, which was a driving factor in the year over year drop of 6.8% on FMV.
- Volume was down this January in comparison to last year as both channels showed year over year drops driven by heavy duty day cab and sleeper tractors.
- The auction channel usage increased month over month despite the 5% drop in average age due to the light volume for the month allowing a larger impact the heavy trucks are having on the auction channel in comparison to a more balanced mixture with medium duty during December.

MARKET FORECAST

In February, we should expect a more evening out of sorts for the resale channel while the auction channel picks up in volume.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▲ 23.1% RESALE	▼ 92.8% AUCTION	▲ 0.8% RESALE	▼ 5.0% AUCTION	▲ 2.6% RESALE	▲ 36.0% AUCTION
YEAR OVER YEAR	▼ 1.6% RESALE	▼ 4.3% AUCTION	▼ 13.4% RESALE	▼ 30.6% AUCTION	▲ 21.9% RESALE	▼ 25.2% AUCTION

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COMMERCIAL TRUCK
NEXT TYPE TRENDS

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Almost all regions showed a slowdown in pricing for the month. The largest change from last month was within Region C which appeared to be closely tied to changes within Region A. Prices kept closest to activity changes for Region M in March 2016. The variance among the regions was 0.74, which was the highest among the four equipment markets.

EQUIPMENTWATCH PRICE STABILITY INDEX BY REGION

Region	Price Stability INDEX	Description
A	97.6	Deflated
B	97.9	Deflated
C	97.6	Deflated
D	97.7	Deflated
E	97.6	Deflated
F	97.9	Deflated
G	97.8	Deflated
H	98.1	Deflated
I	[illegible]	[illegible]
J	[illegible]	[illegible]
K	NA*	NA*
L	NA*	NA*
M	98.3	[illegible]
N	97.7	Deflated

*Insufficient data. See Appendix for explanation.
*See Appendix for regions.

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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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NEXT APPENDIX CONTINUED
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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:

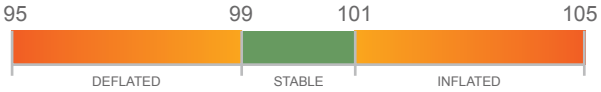
$$P_L = \frac{\sum(p_{c,t_n}) * (q_{c,t_0})}{\sum(p_{c,t_0}) * (q_{c,t_0})}$$

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.

NEXT APPENDIX CONTINUED
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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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