



JOHN DEERE

Deere & Company (NYSE: DE)

Team Big Green Tractor

Connor D'Aquila | John DeLuca | Connor Kleiderer | Max Lau

Undergraduate Investment Conference ENGAGE Stock Pitch Competition





Connor D'Aquila



John DeLuca



Connor Kleiderer



Max Lau

Deere & Company (NYSE: DE)

Recommendation: Sell

Target Price: \$288.31

Implied Upside: 24.6%

Investment Horizon: 3-12 Months



Executive Summary

We recommend a **“Sell”** of Deere because of tailwinds that have caused them to overearn, which have become headwinds, and street optimism rooted in recency bias

1

Thesis 1: Overearning

Deere earnings have grown above normalized levels due to four tailwinds that have allowed for significant revenue growth and margin expansion

2

Thesis 2: Tailwinds Become Headwinds

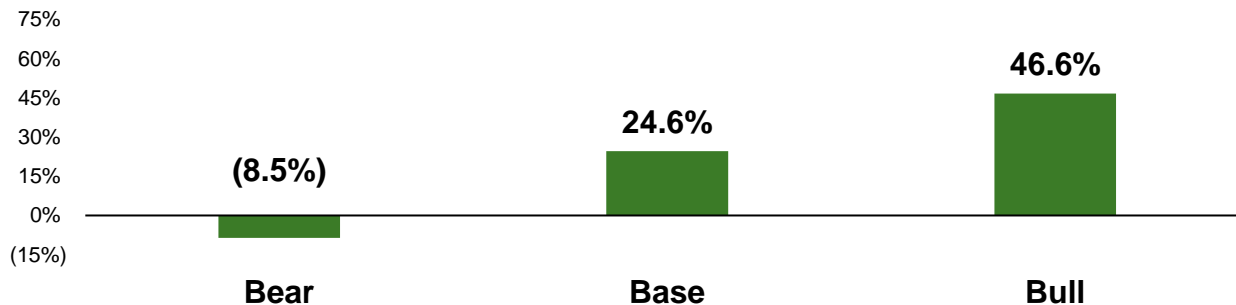
The four tailwinds that have caused Deere’s earnings to dramatically increase have all reversed and become headwinds, giving management three options, all of which will likely lead to margin contraction in the near-term

3

Thesis 3: Street Estimates May Be Too Optimistic

Consensus believes normalized earnings to be ~\$25/share, which is due to recency bias and may be too optimistic, as Deere’s historical EPS has ranged from \$5-10/share, while medium-term growth fundamentals have not changed significantly

Projected Return Profile (3-12 Months)



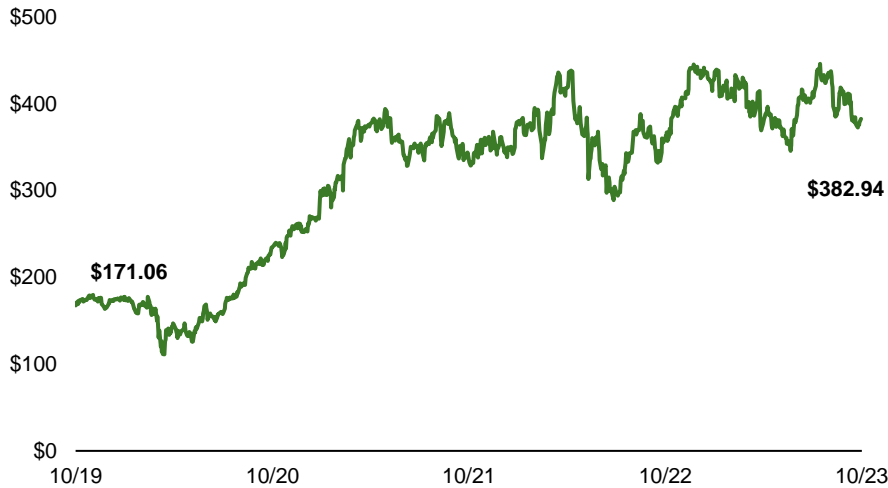
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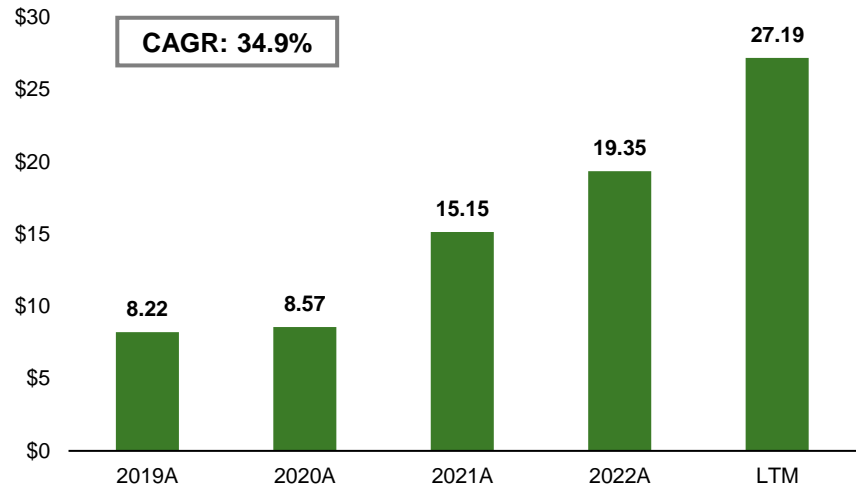
Introduction To Deere

Deere is the largest global agricultural machinery producer and has seen significant share price, earnings, and margin growth since the onset of the COVID-19 pandemic.

Deere's Last Four Years – 124% Increase In Share Price¹



Deere's Last Four Years – 231% Increase In Adjusted EPS²



Segmentation Overview³

Segment	Description	Size
Production & Precision Ag	Large tractors, combines, sprayers, and planters for grain farmers	42.3%
Small Ag & Turf	Mid-size and small tractors for dairy farmers; commercial lawn equipment	25.7%
Construction & Forestry	Earth-moving, forestry, and road-building machines for job sites	24.1%
John Deere Financial	Provides sales and leases of equipment; provides financing plans	7.9%

Operational Efficiency⁴

Company	EBIT Margin (2019)	EBIT Margin (2022)
DE	14.2%	19.4%
AGCO	3.9%	10.0%
CNHI	10.3%	17.4%

Deere and their two biggest agricultural competitors have experienced significant operating margin expansion since the onset of the COVID-19 pandemic, due to four tailwinds

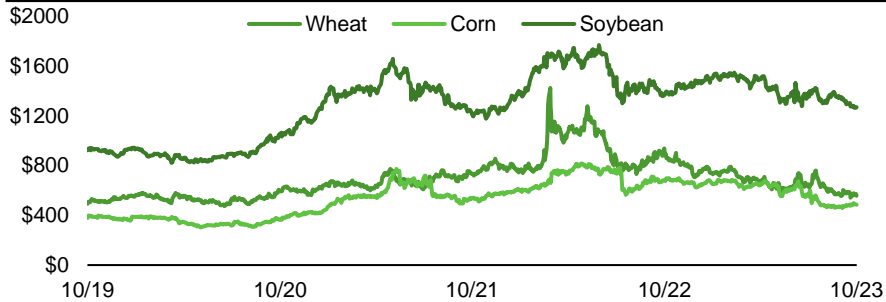


[1] Yahoo! Finance [2] Bloomberg [3] Company Filings [4] S&P Capital IQ

Deere Is At The Top Of The Cycle

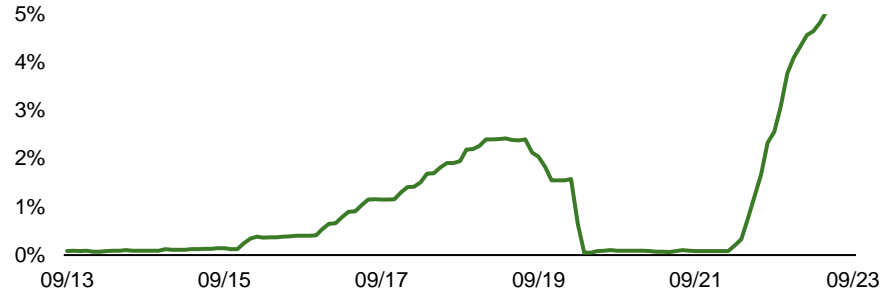
Deere has benefited from four tailwinds that have supported farmers' ability to purchase Deere machinery. Heightened demand from farmers allowed Deere to inflate prices and increase their volumes, thus expanding their margins and growing earnings.

Stabilizing Grain Prices¹



Grain prices reached all time highs in 1H22, which significantly increased farm incomes. Grain prices have since normalized, and farmers do not have the same ability to purchase new equipment

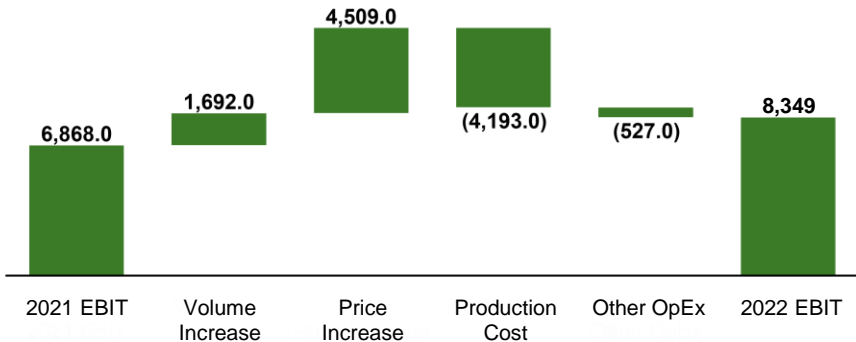
No More Near-Zero Interest Rates



Low interest rates had made it easier to finance machinery purchases. The current rate environment disincentivizes these purchases through a higher cost of capital. Higher rates also mean that dealers have a higher cost to hold equipment on their lots, making it likely that they lower inventory and reduce orders

Supply Chain Challenges Are Gone

Y/Y Growth: 21.6%
Price Increases Account For 72.7% Of Revenue Growth



Section 179 & Bonus Depreciation⁴

Section 179

Section 179 allows farmers to deduct up to \$1.1M of equipment purchases from taxable income, assuming taxable income is greater than \$1.1M

Bonus Depreciation

Bonus Depreciation allowed farmers to deduct 100% of equipment purchases from taxable income. The bonus percentage will decrease by 20% per year until 2027, when the percentage becomes 0%

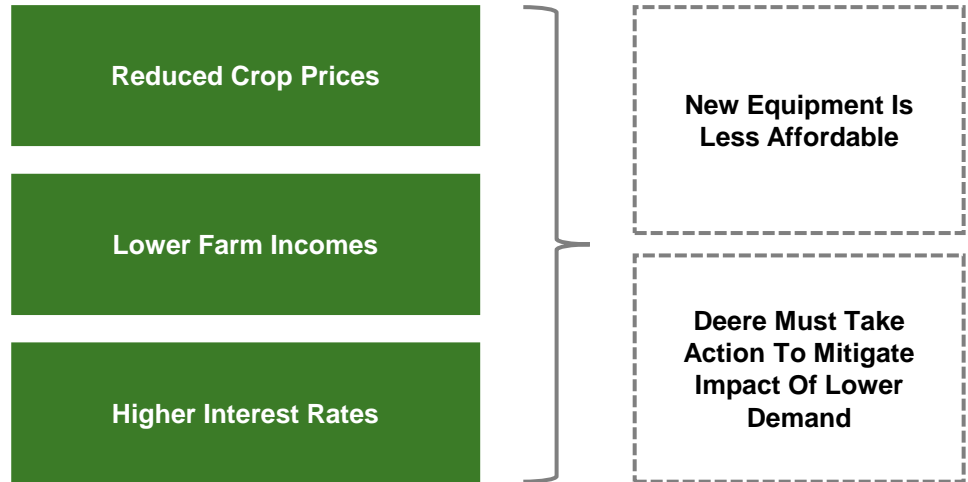
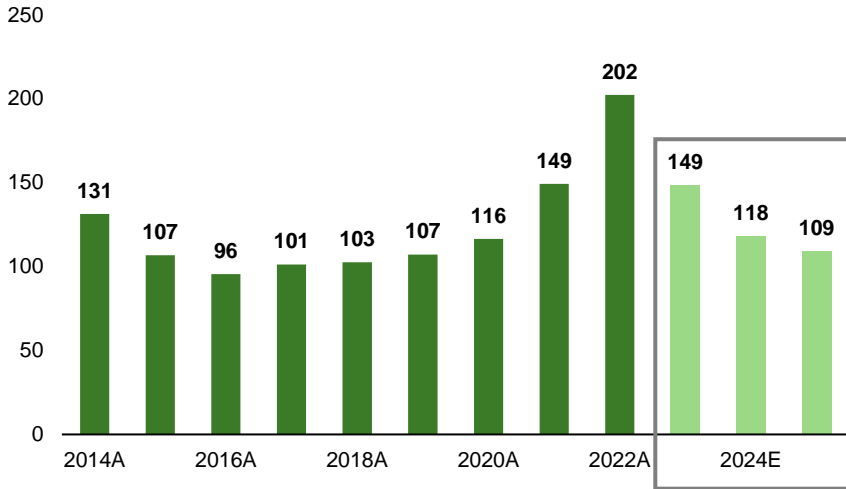
Section 179 and Bonus Depreciation have incentivized farmers to make equipment purchases. The change to bonus depreciation provisions decreases farmers' ability to purchase Deere machines



What This Means For Deere

Decreasing farm incomes and higher interest rates mean that farmers are less likely to purchase Deere's machines. While Deere has made manufacturing efficiency improvements, rising labor costs on Deere and their suppliers may have a greater impact on margins.

Farm Incomes (\$M)^{1,2}



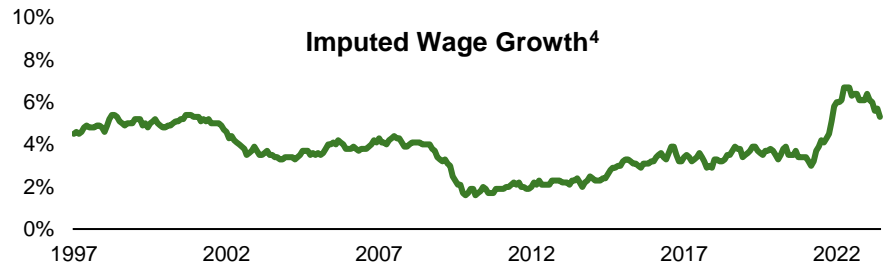
Supply Chain & Labor Issues

Supply chain challenges led to slower delivery of Deere equipment

Deere would spend considerable time waiting for machinery parts to become available

Manufacturing efficiency has since improved greatly, allowing for faster revenue recognition

“We saw continued progress from our supply base, enabling our operations to hit production schedules almost exactly as planned.”
 – **Brent Norwood, Head of Investor Relations**³



Deere implemented a three-year contract that provides 7% annual wage increases to their employees^{5,6}

Rising wages means that upstream suppliers are charging higher prices, increasing input costs

Higher input costs combined with higher costs of production puts downward pressure on margins and earnings



[1] USDA [2] Evercore ISI [3] 3Q23 Earnings Call [4] Federal Reserve Of Atlanta [5] New York Times [6] Company Filings

Deere's Three Options

Deere has three potential strategies to combat these headwinds, all of which likely result in significantly lower earnings. Further research on agricultural machinery dealers suggests that demand has slowed considerably, and large agriculture revenues and margins could decrease.

Strategy 1: Reduce Listed Price

Volume Remains Constant & Contribution Margin Falls

Strategy 2: Reduced Realized Price

Volume Remains Constant & Contribution Margin Falls

Strategy 3: Maintain Realized Price

Volume & Fixed Cost Absorption Fall

All Margins Contract

Earnings Fall Below \$25 Per Share

The Results

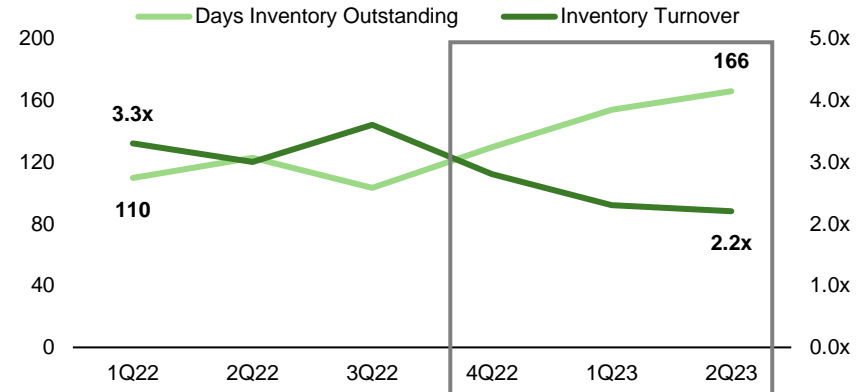
Ag-Pro Findings¹

Ag-Pro is the largest Deere-only dealer in the United States

Ag-Pro is offering 0% APR financing on Small Ag & Turf machinery

Ag-Pro is also offering considerable discounts on cash purchases of equipment

Titan Machinery (NASDAQ: TITN)²



And The Pendulum Swings Back

While the sell-side and long-only funds are still bullish on Deere, our primary research indicates that there have been some slowdowns in production and precision agriculture. Farmers may spend considerably less on machinery and dealers recognize that demand has slowed down.

What The Street Is Thinking^{1,2}

Primary Discovery

“Dealers are beginning to offer discounts and zero-rate financing on combines, and realized prices are down ~20% in the last six months.”

– Kyle Menges, Citi

“We’ve spoken to a number of farmers who think Deere is just adding bells and whistles to their sprayers to charge them more money.”

– Kyle Menges, Citi

“If we truly are at the bottom of the cycle, we don’t see earnings being any lower than \$25 per share. We think we are still in the middle of the cycle.”

– Kyle Menges, Citi

“Although crop prices are declining, farm profitability should stay strong... interest rates are not as big of a concern for farmers.”

– Holly Dunham, Deere

What Farmers & Dealers Are Thinking^{3,4}

Farmer & Dealer Insights

“I plan to be down 80% in equipment spending for 2024. I normally spend short of \$1M each year, and if I spend \$250K in 2024, that would be a stretch.”

– Large Grain Farmer (>64K Acres)

“Deere is still shipping combines to dealers, and dealers don’t want them. My dealer told me they had a dozen coming that they couldn’t cancel.”

– Large Grain Farmer (>64K Acres)

“Incoming orders from farmers are declining, but this impact on sales won’t show up until 2024. Myself and other dealers have been more conservative recently.”

– Southeast Deere Dealer

“Our initial Early Order Program was sold out, but current combine and tractor orders are slower... Demand is not there... We have to subsidize interest rates to incentivize farmers to buy.”

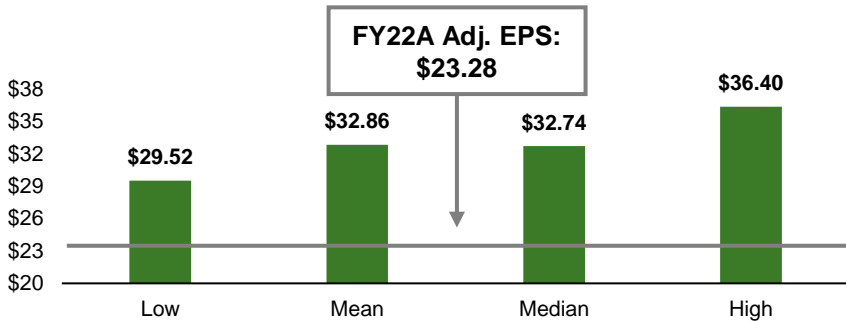
– Northeast Deere Dealer



What The Market's Missing

The sell-side estimates stable earnings despite a weakening agriculture outlook. This is driven by their perception of the Construction & Forestry segment's growth outlook and the high margin profile of the precision agriculture machines.

Consensus FY24E Adj. EPS¹



The street is overwhelmingly bullish on Deere's near-term earnings potential, which we believe to be misguided given weakening agriculture fundamentals

Perceived Growth Drivers

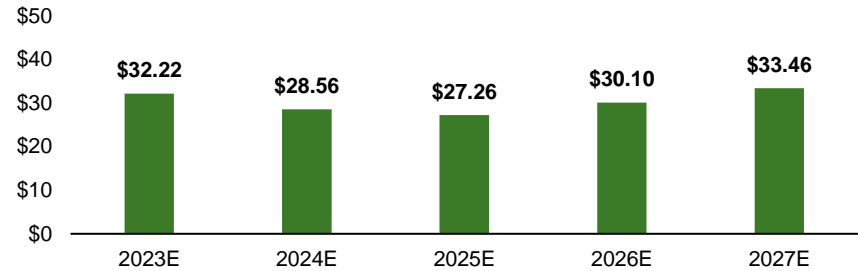
Stance	Construction	Precision Agriculture ⁵
Bullish	IJA benefits have begun to be realized, boosting demand. Reshoring efforts are also a growth driver for the segment	The new subscription model will increase revenue and margins in the short term
Team Big Green Tractor	Higher interest rates make project financing more difficult, which could offset potential growth from the IJA and reshoring efforts	See & Spray adoption may be hindered by higher prices, lower farm incomes, and higher rates

Even The Bears Are Still Bulls^{2,3,4}

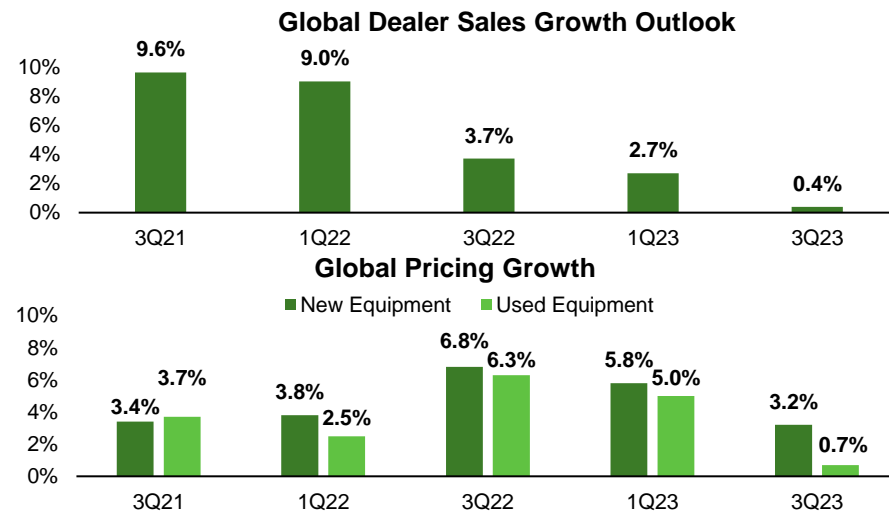
Evercore ISI
Price Target: \$424.00
FY24E Adj. EPS: \$31.52

JP Morgan
Price Target: \$380.00
FY24E Adj. EPS: \$31.16

Team Big Green Tractor Earnings Forecast



Construction Equipment Dealer Data⁶



Valuation Overview

Our valuation is based on a 15.0x EBIT multiple and a 2.5% perpetual growth rate, which, when averaged, produces an implied share price of \$288.31, or an upside of 24.6%.

DCF – Three Statement Model

WACC	8.6%
Exit Multiple	15.0x
PGR	2.5%
Sum of PV	18,585.6
Multiple Terminal Value	78,428.5
PGR Terminal Value	79,749.8
Multiple TEV	97,014.1
PGR TEV	98,335.4
Blended TEV	97,674.8
(-) Debt	(14,713.3)
(+) Cash	5,346.6
Equity Value	88,308.1
FDSO	306.3
Implied Share Price	\$ 288.31
Current Price	\$ 382.23
V/P	0.8
Upside	24.6%

Revenue Projections

Our model projects significant revenue growth slowdowns in FY24-25 resulting from lower price and volume in P&PA and Small Ag, which rebounds in FY26-27

Expense Projections

Our model projects slight margin compression in FY24-25 resulting from lower realized price through promotional incentives, which rebounds slightly in FY26-27

WACC Calculation

Risk Free Rate	5.33%
Market Risk Premium	5.00%
Beta	1.00
Cost Of Debt	6.70%
Tax Rate	21.96%
Current Price	\$ 382.23
Share Count	297.50
Cost Of Equity	10.33%
Cost Of Debt	5.23%
Equity Amount (\$)	113,713
Debt Amount (\$)	58,007
Total	171,720
WACC	8.60%

Sensitivity Analysis

Exit Multiple Share Price Sensitivity

WACC	13.0x	14.0x	15.0x	16.0x	17.0x
6.60%	\$274.18	\$292.74	\$311.30	\$329.86	\$348.42
7.60%	\$262.82	\$280.61	\$298.41	\$316.21	\$334.00
8.60%	\$252.01	\$269.08	\$286.15	\$303.22	\$320.29
9.60%	\$241.72	\$258.10	\$274.48	\$290.86	\$307.24
10.60%	\$231.93	\$247.65	\$263.37	\$279.10	\$294.82

Perpetuity Growth Method Share Price Sensitivity

WACC	1.5%	2.0%	2.5%	3.0%	3.5%
6.60%	\$368.16	\$406.40	\$453.97	\$514.73	\$595.08
7.60%	\$300.26	\$325.69	\$356.09	\$393.11	\$439.14
8.60%	\$251.63	\$269.57	\$290.46	\$315.08	\$344.52
9.60%	\$215.12	\$228.35	\$243.45	\$260.83	\$281.06
10.60%	\$186.74	\$196.83	\$208.15	\$220.97	\$235.59



Risks To Our Thesis

If Deere's earnings stay strong in 2H24, our projected upside might not be realized immediately, but we believe that at the very minimum, weakening agriculture fundamentals will result in lower earnings in FY25, leading to upside on a short of Deere.

2024 Earnings Upside¹

"The upside case is that volumes could grow next year (Deere cited a 'strong advance-order position') if farmer input costs fall enough to more than offset lower grain prices."

- Steven Fisher, UBS



We expect a decrease in revenue and margins from lower machine prices and volumes. Even if demand remains stable in the short-term, we believe that it is probable that demand decreases in the back-half of 2024, leading to our thesis being realized

2025 and Beyond²

"We only have solid visibility into the next nine months or so, so demand outlook becomes far more uncertain past 1H24."

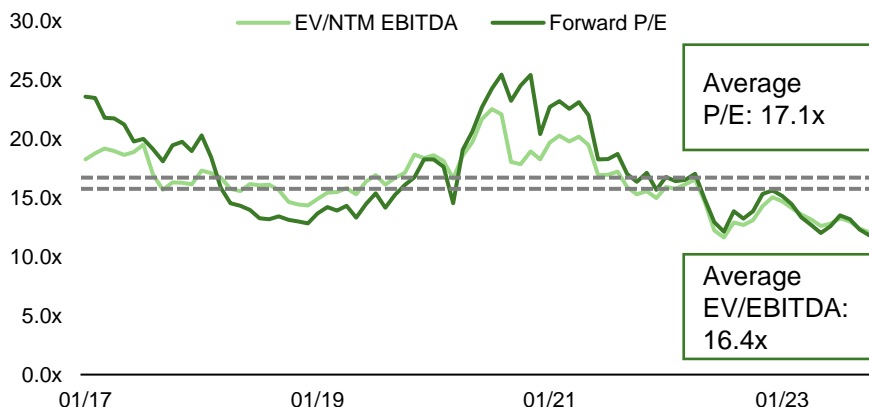
- Kyle Menges, Citi



Even if earnings remain high in 1H24, we believe that weakening agriculture fundamentals may lead to lower earnings in 2H24 and FY25

The Multiple Question³

Multiple Timeline



Multiple Stability – Valuation Hinges On Earnings

We assume an EV/EBITDA multiple slightly above the average of the last twelve months, erring on the side of conservatism. As earnings fall and Deere's short-term growth outlook decreases, the multiple may compress, leading to further upside



What Moves The Needle

High frequency data highlighting weak agriculture fundamentals offsetting Deere's order backlog, especially in the form of lower machine prices, farmer income, and factory slowdowns will lead to investors realizing that the agriculture cycle is at its peak.

Looking Ahead – Where Is The Value?

When?	Immediately		2024	2025 and Beyond
What Happens?	<p>Used Machine Prices¹</p> <p>Used combine prices are already down 20%; we believe that used large tractor prices may decrease as well</p>	<p>Lower Farmer Income²</p> <p>Crop prices are still coming down from 2022 all-time highs, decreasing farmers' top line revenue</p>	<p>N. America Slowdown³</p> <p>While the headwinds that we believe will slow NA growth are different from those in the EU, we believe Deere's operating rates will decrease in 2024</p>	<p>How Long?</p> <p>Agriculture is a cyclical industry, and we believe when the cycle repeats, Deere will be poised for long-term growth</p>
Results?	<p>Lower grain prices, high interest rates, and rising farm labor costs compound to decrease farmers' purchasing power, reducing demand for Deere equipment. Deere factories in Germany, US, and Brazil have reduced operating rates. Large backlogs are supplementing revenue for now, but future orders may suffer³</p>		<p>We expect lower realized prices for machinery, which drives lower revenue, margins, and earnings</p>	<p>While we believe Deere's short-term performance may suffer, we believe their long-term outlook is positive</p>
	<p>FY24 Earnings Estimate: \$28.56 (11.4% y/y decline)⁴</p>		<p>3-12 Month Price Target: \$288.31 (24.6% upside)⁴</p>	

Sources: [1] AEM Data [2] Bloomberg [3] Evercore ISI [4] Team Estimates

Final Recommendation

We recommend a “**Sell**” of Deere because of tailwinds that have caused them to overearn, these tailwinds have become headwinds, and consensus earnings predictions are too optimistic.

1

Thesis 1: Overearning

Deere earnings have grown above normalized levels due to four tailwinds that have allowed for significant revenue growth and margin expansion

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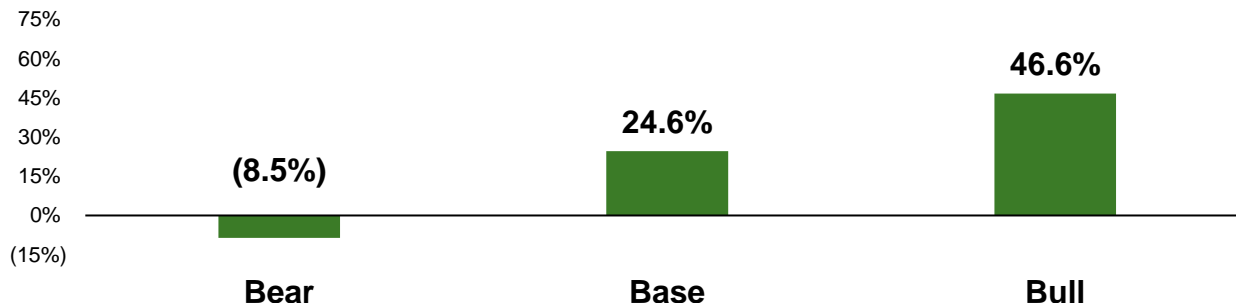
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Projected Return Profile (3-12 Months)



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