

# Stock Price Prediction for Caterpillar Inc

FIN 600 - Fall 2025

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# Why Caterpillar Inc.?

- ▶ Global Leader in construction & mining equipment
- ▶ Critical role in infrastructure and resource industries
- ▶ Diversified segments: Construction, Resource, Energy & Transportation
- ▶ Strong dealer network and aftermarket services



# Company Overview

- ▶ **Segment:** Construction Industries, Resource Industries, Energy & Transportation.
- ▶ **Global footprint:** ~150 primary locations, ~156 dealers in ~190 countries.
- ▶ **2024 Sales & Revenues:** \$64.8B
- ▶ **R&D:** ~\$2.1B (2023)
- ▶ **HQ:** Irving, Texas.



# Executive Summary

## Highlights

Revenue for 3Q 2025: ≈ US\$ 17.6 billion (up ~10% yoy)

Strong backlog and dealer ecosystem.

## Strengths & Challenges

**Strengths:** Installed base, services flywheel, capital return discipline, AI Infrastructure.

**Challenges:** Cost inflation & Tariffs (Steel, Components, Logistics) affecting margins.

# Financial Statement Analysis

## Key Figures

Sales for FY 2024: ≈ US\$ 64.8 billion (down ~3% yoy)

Revenue for 3Q 2025: ≈ US\$ 17.6 billion (up ~10% yoy)

Adjusted EPS for 3Q 2025: US\$ 4.95 (down from US\$ 5.17 in 3Q 2G 2024)

Operating margin for FY 2024: ≈ 20.2% (up from 19.3% in 2023)

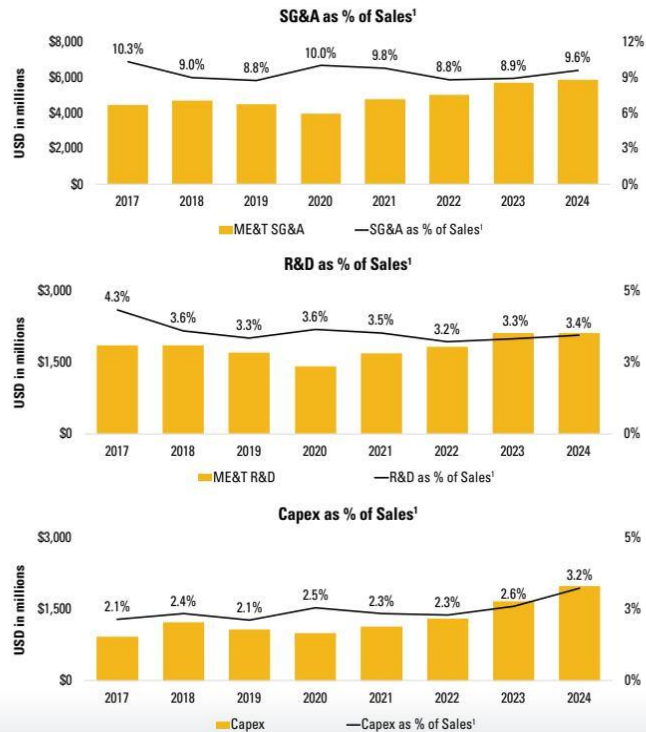
## Drivers & Risks

**Positive Drivers:** Strong demand from infrastructure projects and AI data centers. Operational efficiency improvements and pricing power preserve profitability.

**Challenges / Risks:** Lower sales volumes in some segments. Cost inflation (steel, components, logistics). Supply chain delays.

# Capital Budgeting Analysis

## SG&A, R&D and Capex Spending<sup>1</sup>



<sup>1</sup> Includes SG&A, R&D, Capex and sales from ME&T.

## Spending Discipline

SG&A, R&D, and CAPEX shown as % of sales to assess spending discipline.

**SG&A:** Slightly higher in recent years - manageable rise amid inflation.

**R&D:** Steady - sustained innovation in automation, electrification, and digital solutions.



# Capital Budgeting Analysis

- ▶ **Investment Priorities:** Electrification, Automation (Cat® MineStar, Cat® Command), and expanding solar turbines & backup power systems.
- ▶ **R&D and CAPEX Stability:** Stable R&D and gradually increasing CAPEX show planned, not reactive investment behavior.
- ▶ **Financial Discipline:** CAPEX financed primarily through operating cash flows, not excess debt. Aligns with strong dividend policy.
- ▶ **Implication for Investors:** Indicates long-term growth orientation with low financial risk.



# Capital Structure Analysis

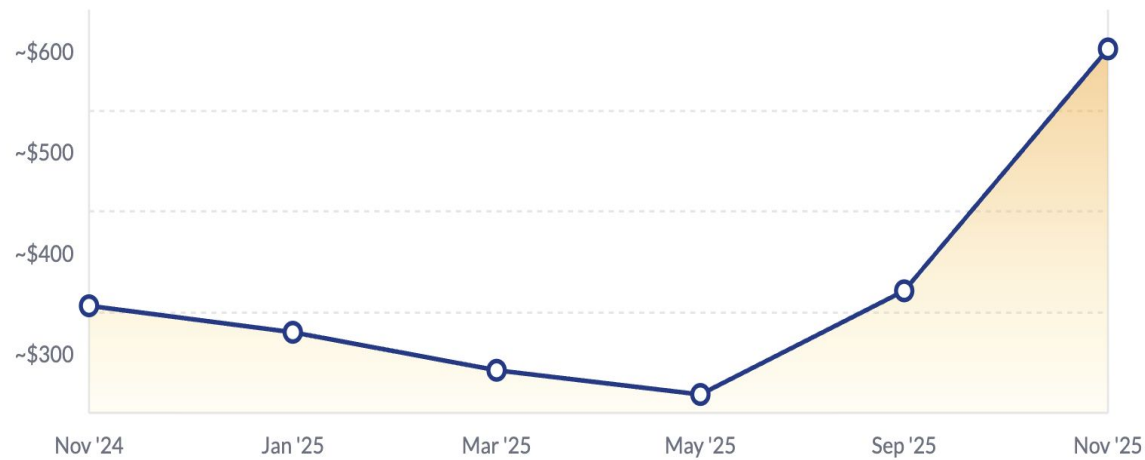
- ▶ Caterpillar reduced debt slightly (-2.8%) while growing equity (+3.1%)
- ▶ Leverage improved: D/E fell from 1.49 to 1.40
- ▶ ROE remains very high (~55%), reflecting strong profitability relative to equity
- ▶ Balance sheet shows conservative debt management despite cyclical industry pressures





# Risk & Return Analysis

## Risk & Return: 12-Month Price Trend (CAT)



CAT stock shows significant volatility, with a dip in early 2025 followed by a strong recovery and surge through Q3/Q4, reflecting cyclical sensitivity and recent market momentum.

## 12-Month Price Trend (CAT)

- ▶ Holding Period Return (12M): +43.9%
- ▶ Annualized Volatility: 27.6%
- ▶ Beta vs SPY: ~1.25
- ▶  $R^2$ : ~0.68
- ▶ Max Drawdown: ~12.6% (Apr 2025)
- ▶ **Comparison vs SPY:** CAT higher return, higher volatility
- ▶ **Summary:** CAT stock shows significant volatility, with a dip in early 2025 followed by a strong recovery and surge, reflecting cyclical sensitivity.

# Industry & Market Analysis

Caterpillar is one of the world's largest makers of heavy machines for construction, mining, energy, and transportation.

Despite economic challenges like inflation and higher interest rates in 2025, Caterpillar performed very well.

In Q3 2025, sales grew by 10%, reaching \$17.6 billion. This shows Caterpillar's strength even when the economy is uncertain.

## Third-Quarter Results

(\$ in billions except profit per share)	2025	2024
Sales and Revenues	\$17.6	\$16.1
Profit Per Share	\$4.88	\$5.06
Adjusted Profit Per Share	\$4.95	\$5.17

# Market Position & Competitors

## 2025 Construction Equipment Sales (\$B)



- ▶ Caterpillar is the biggest company in this market with \$64.8 billion in sales in 2024.
- ▶ Main competitor Komatsu (Japan) made \$22 billion.
- ▶ Other competitors include Volvo, Hitachi, and John Deere.
- ▶ Caterpillar leads significantly in global sales in the heavy machinery industry.

# Industry & Market Analysis

- ▶ The industry is evolving quickly with AI and digital technologies to improve machine efficiency.
- ▶ **Sustainability** is very important: Caterpillar develops electric machines and reduces fuel use to lower pollution.
- ▶ **Energy transition** drives mining growth due to demand for minerals in clean energy tech.
- ▶ Energy products like solar turbines and backup power now make up about 40% of sales.

# Industry & Market Analysis

## Risks

Risks include higher interest rates and inflation, making it harder for customers to finance new equipment.

Supply chain issues and geopolitical risks can slow production and delivery.

## Growth Opportunities

Positive signs: Large infrastructure spending in North America supports Caterpillar sales.

Emerging markets like Southeast Asia and China are growing, offering new expansion chances.



# Valuation Analysis

## Key Metrics Overview

**Current Stock Price:**

\$585.50

**Market Cap:**

\$150B+

**P/E Ratio:** ~17.5

(moderate)

**Dividend Yield:** ~2.1%

(steady)

**Earnings Growth:** Positive

trend

## Valuation Methods

**Comparable (CCA):** Compared P/E, P/S, EV/EBITDA with competitors (Jacobs, Fluor, Kiewit).

→ Competitively valued.

**Discounted Cash Flow (DCF):**

Projected future cash flows discounted at WACC  $\approx$  8%.

→ Implies intrinsic value around \$610–\$625.

## Insights

**Relative Valuation:**

Industry avg P/E = 19

Target firm's P/E = 17.5

→ Potential +8–12% upside

**Key Insights:** Stable earnings and low debt. Sales increase and acquisitions expected to boost Q4 margins.

Dividends support investor confidence.

# Prediction Model: Methodology & Results

## Methodology

**Data:** yfinance Library (2 years Daily high/low/volume)

**Features:** RSI, MACD signals

## Results

Predicted CAT closing price on Nov 19, 2025: \$548.27

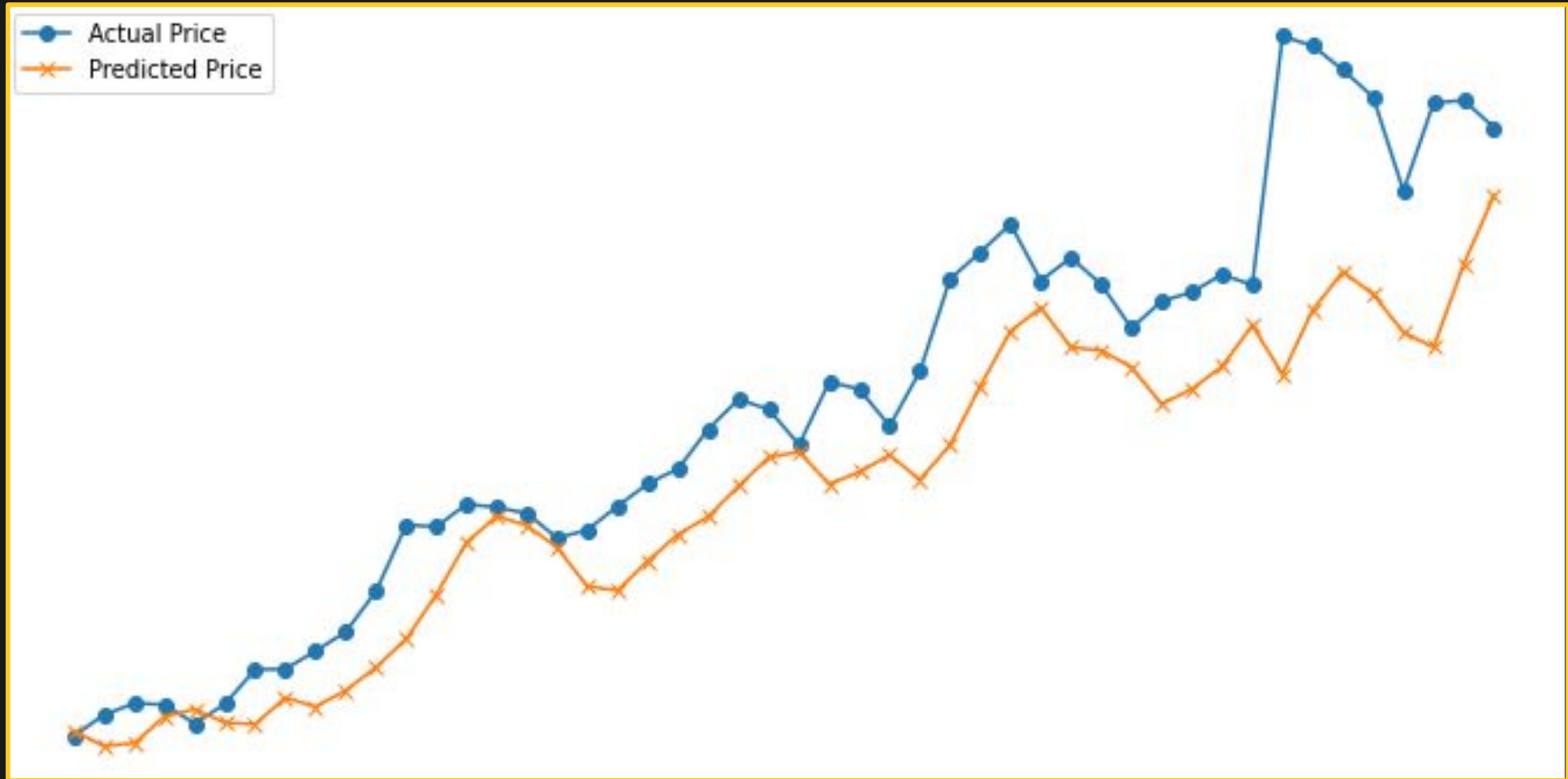
Mean Squared Error (MSE): 731.11

Mean Absolute Error (MAE): 20.75

R-squared ( $R^2$ ): 0.6999

*Interpretation: On average \$21 dollars difference from actual price. 70% of variations are captured by our model.*

# Prediction Model: Actual vs. Predicted Price



# Price Prediction Target: Nov 19th 2025

- ▶ **Current Price:** \$585.50
- ▶ **Nov 19 Target:** \$615 ± 10 (→ ~5% projected short-term gain)
- ▶ **Next Quarter Projection:** \$640–\$670 range
- ▶ **Short-Term Model:** Trend-based projection using exponential smoothing.
- ▶ **Long-Term View:** Incorporates fundamentals (sales growth, dividend, sector strength).
- ▶ **Catalyst:** AI tools identified upward momentum linked to dividend payment (Nov 20).
- ▶ **Macro Tailwind:** Infrastructure and energy construction sectors expanding in Q4.

# AI Use and Insights

- ▶ **Relevant & Important Information (Intuition):** Revenue, margins, CAPEX, and dividend stability are key. Industry tailwinds (infrastructure, clean energy) shape long-term value.
- ▶ **How AI Helped:** Assisted summarizing financial data, clarified corporate finance concepts, & interpreting budgeting trends. Helped identify key themes (electrification, automation) from investor materials.
- ▶ **Key Insights Learned:** AI highlighted that CAPEX growth is strategic (innovation, sustainability), not just operational. Steady margins + increasing CAPEX indicate strong cost control.



# AI Use and Insights (cont.)

- ▶ **Surprising or Debatable Points:** AI suggested stock might be undervalued due to underappreciated sustainability initiatives. Some AI sources overemphasized automation's short-term financial impact.
- ▶ **AI Feedback on Slides:** Rated slides as clear and logically structured. Suggested adding one image per section. Recommended linking financial metrics directly to strategic priorities.

# Conclusion

## Investment Takeaways

Strength of platform

Operational momentum

Disciplined capital returns

## Risks to Consider

Cycle sensitivity

Margin variability

Policy and Financing

# Investment Recommendation

## Long-Term: Buy & Hold

- **Favorable Valuation:** DCF (\$610–\$625) and P/E (17.5 vs 19) show upside.
- **Financial Discipline:** Strong ROE (~55%) and improving D/E ratio (1.40).
- **Strategic Growth:** Key investments in electrification, automation, and energy.
- **Macro Tailwinds:** Benefits from infrastructure spending and energy transition.



## Short-Term: Positive Outlook

- **Analyst Target:** \$615 ± 10 for Nov 19.
- **Key Catalyst:** Upward momentum expected from the Nov 20 dividend payment.
- **Risk:** Subject to higher volatility (27.6%) and cyclical sensitivity.

**Final Recommendation: A Buy & Hold for long-term growth, using the positive short-term momentum as a favorable entry point.**

# References

- ▶ **Financial Reports:** Caterpillar Inc. 10-K (FY 2024), 10-Q (3Q 2025)
- ▶ **Press Releases:** Caterpillar Corporate Press Releases, 2024 Investor Presentation
- ▶ **Competitor Analysis:** scribd.com, Business Chronicler
- ▶ **Python Libraries:** yfinance, ta (technical indicators), tensorflow, scikit-learn