
Industrials Stock Recommendations

12/7/2021

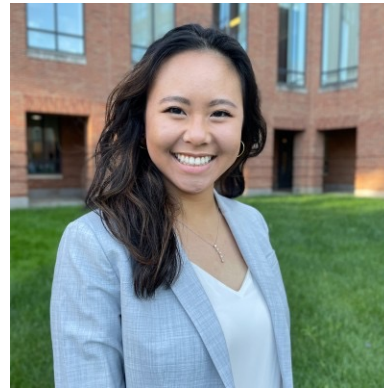
Team Overview



Frank Geib



Jeremy Gao



Michelle Hang



Katherine Hart

Agenda

- Sector Review
- Discussion of Stocks
 - Business Analysis
 - Financial Analysis
 - Valuations
- Final Recommendation



Sector Review

Industrials within SIM Portfolio

Securities Allocation			
Sector	S&P 500 Weight	SIM Weight	+/-
Information Technology	27.94%	25.37%	-2.57%
Financials	11.41%	13.02%	1.61%
Health Care	13.02%	13.65%	0.63%
Consumer Discretionary	12.82%	11.75%	-1.07%
Consumer Staples	5.60%	5.63%	0.03%
Industrials	8.03%	8.07%	0.04%
Energy	2.86%	4.19%	1.33%
Utilities	2.41%	1.89%	-0.52%
Materials	2.49%	3.23%	0.74%
Communication Services	10.83%	11.23%	0.40%
Real Estate	2.59%	1.98%	-0.62%
Total	100.00%	100.00%	0.00%

Industrials within SIM Portfolio

SIM Student Investment Management

The Ohio State University
Fisher College of Business
Student Investment Management Portfolio
Portfolio Appraisal Record
October 29, 2021



THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

Quantity	Security	Ticker	GIC Sector	Unit Cost	Total Cost	Market Price	Market Value	Unrealized	Unit Income	Est. Ann. Income	%age Assets	Eq shares out	Market Cap (In Millions)	Beta
COMMON STOCKS														
490	CATERPILLAR INC	CAT	Industrials	207.84	\$101,843.51	204.01	\$99,964.90	(\$1,879)	4.44	\$2,175.6	1.01%	547.472	111,689.7	0.91
370	DEERE & CO	DE	Industrials	372.01	\$137,642.94	342.31	\$126,654.70	(\$10,988)	4.20	\$1,554.0	1.28%	310.062	106,137.2	1.17
1,750	FEDEX CORP	FDX	Industrials	147.95	\$258,909.11	235.53	\$412,177.50	\$153,268	3.00	\$5,250.0	4.15%	265.650	62,568.6	0.99
3,520	UNITED AIRLINES HOLI	UAL	Industrials	47.12	\$165,867.72	46.14	\$162,412.80	(\$3,455)	-	\$0.0	1.64%	323.611	14,931.4	1.95
32	TOTAL				\$664,263.28		\$801,209.90	#####		\$8,979.60	8.1%		\$295,326.78	



SIM Industrials Stock Analysis

Business Analysis, Financial Analysis, & Valuation

Business Comparison



JOHN DEERE

Farm & Heavy
Construction Machinery

LTM Gross Margin:
32.4%

LTM Revenues:
\$44.0B

Market Cap:
\$108.3B



Farm & Heavy
Construction Machinery

LTM Gross Margin:
26.5%

LTM Revenues:
\$48.4B

Market Cap:
\$107.0B



Integrated Freight &
Logistics

LTM Gross Margin:
27.8%

LTM Revenues:
\$86.6B

Market Cap:
\$64.0B



UNITED

Airlines

LTM Gross Margin:
2.1%

LTM Revenues:
\$19.9B

Market Cap:
\$13.1B

Business Comparison



Business Comparison



Business Comparison



Business Comparison

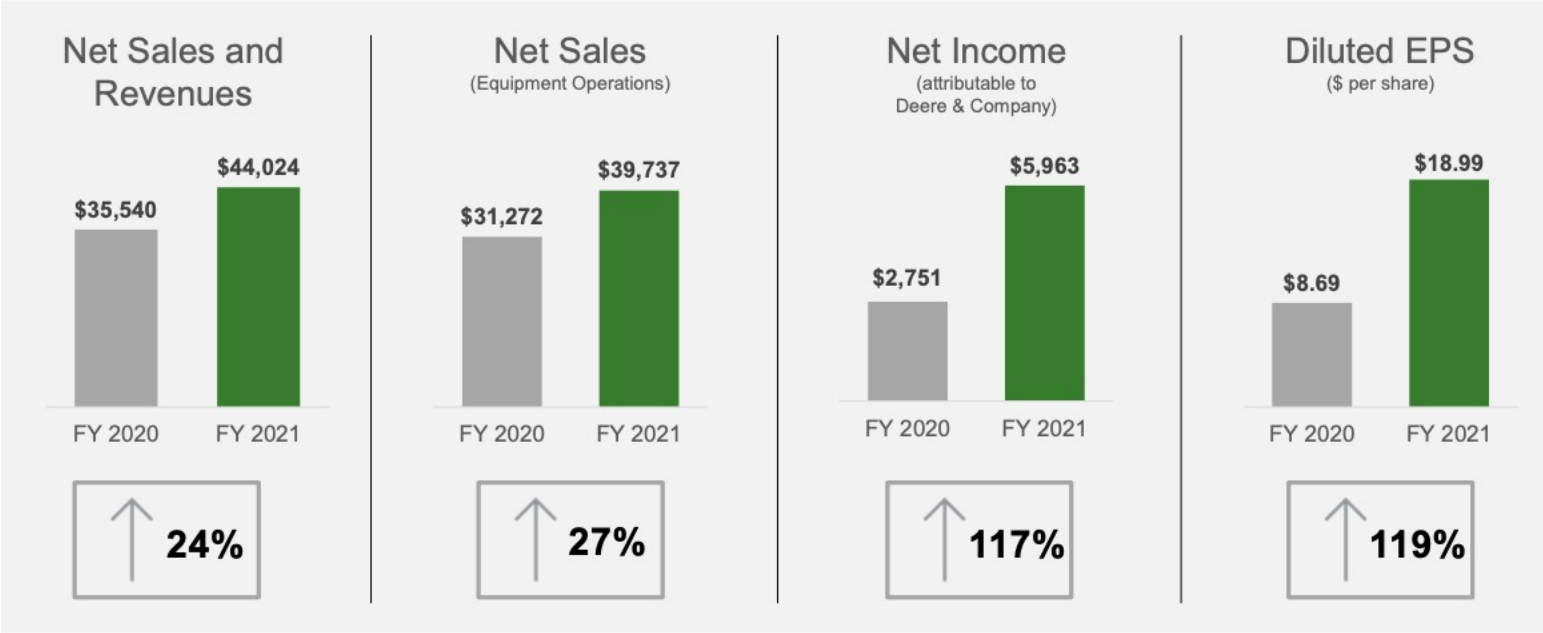


Business Overview – Deere and Co.



FY 2021 Results

(\$ millions except where noted)



Financial Overview - Deere & Co.

Deere & Co. Income Statement						
Income Statement (In Millions)	10/30/16	10/29/17	10/28/18	11/3/19	11/1/20	10/31/21
Total Revenues	26,549	29,071	37,318	39,233	35,514	44,024
% Change YoY	-7.80%	9.50%	28.40%	5.10%	-9.50%	24.00%
Cost of Goods Sold	-18,183	-19,835	-25,571	-26,787	-23,460	-29,124
Gross Profit	6,154	6,778	8,985	9,187	8,955	14,257
% Change YoY	-9.30%	10.10%	32.60%	2.20%	-2.50%	59.20%
% Gross Margins	23.20%	23.30%	24.10%	23.40%	25.20%	32.40%
Selling General & Admin Expenses	-2,275	-2,494	-2,897	-3,008	-2,747	-3,243
R&D Expenses	-1,394	-1,357	-1,658	-1,782	-1,589	-1,587
Other Operating Expenses	-131	-1	-271	-87	-71	-988
Other Operating Expenses	-3,800	-3,852	-4,826	-4,877	-4,407	-5,818
Operating Income	2,354	2,926	4,159	4,310	4,548	8,439
% Change YoY	-10.00%	24.30%	42.10%	3.60%	5.50%	85.60%
% Operating Margins	8.90%	10.10%	11.10%	11.00%	12.80%	19.20%
Interest Expense	-227	-230	-268	-232	-305	-845
Interest And Investment Income	16	17	14	25	26	
Income (Loss) On Equity Invest.	-2	-24	27	21	-48	21
Currency Exchange Gains (Loss)	75	-107	196	97	122	
Income Tax Expense	-700	-971	-1,727	-852	-1,082	-1,658
Net Income	1,524	2,159	2,368	3,253	2,751	5,963
Preferred Dividend and Other Adjustments	-1					
Net Income to Common Incl Extra Items	1,523	2,159	2,368	3,253	2,751	5,963
% Net Income to Common Incl Extra Items Margins	5.70%	7.40%	6.30%	8.30%	7.70%	13.50%
Net Income to Common Excl. Extra Items	1,523	2,159	2,368	3,253	2,751	5,963
% Net Income to Common Excl. Extra Items Margins	5.70%	7.40%	6.30%	8.30%	7.70%	13.50%
Supplementary Data:						
Diluted EPS Excl Extra Items	4.81	6.68	7.24	10.15	8.69	18.99
% Change YoY	-16.60%	38.90%	8.40%	40.20%	-14.40%	118.50%
Weighted Average Diluted Shares Outstanding	317	323	327	321	317	314
% Change YoY	-5.80%	2.10%	1.20%	-2.00%	-1.20%	-0.80%
Weighted Average Basic Shares Outstanding	315	320	323	317	314	312
% Change YoY	-5.50%	1.40%	1.00%	-1.90%	-0.90%	-0.60%
Dividends Per Share	2.4	2.4	2.58	3.04	3.04	3.61
% Change YoY			7.50%	17.80%		18.70%
Payout Ratio %	50.00%	35.40%	34.00%	29.00%	34.80%	17.40%
Basic EPS	4.83	6.76	7.34	10.28	8.78	19.14
EBITDA	3,812	4,524	5,941	6,179	5,450	10,489
% Change YoY	-2.10%	18.70%	31.30%	4.00%	-11.80%	92.50%

Valuation – Deere & Co.

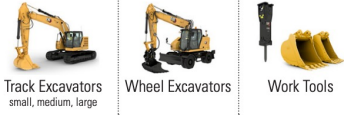
Deere Stock Valuation (Updated Dec 1st, 2021)

Absolute Basis	High	Low	Median	Current
P/E	30.62	8.74	15.91	18.39
P/B	8.53	2.68	4.45	5.86
P/S	3.24	0.81	1.27	2.46
P/EBITDA	14.49	4.28	6.60	10.39

Deere and Co. (DE)											
Analyst: Frank Geib											
Date: 12/6/2021											
Numbers in millions except per share amounts											
Year	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	
Revenue	47,200	48,500	50,925	53,471	56,145	58,391	60,726	63,155	65,681	68,309	
% Growth		2.8%	5.0%	5.0%	5.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Operating Costs (Includes COGS & Interest Payments)	38,704	40,013	41,249	43,312	46,039	47,880	49,796	52,419	54,516	56,696	
Income Before Taxes	8,968	9,215	9,676	10,160	10,106	10,510	10,931	10,736	11,166	11,612	
Margin	19.0%	19.0%	19.0%	19.0%	18.0%	18.0%	18.0%	17.0%	17.0%	17.0%	
Taxes	1,784	1,782	2,032	2,134	2,122	2,207	2,295	2,255	2,345	2,439	
Tax Rate	19.9%	19.3%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	
Net Income	6,712	6,705	7,644	8,026	7,984	8,303	8,635	8,482	8,821	9,174	
% Growth		-0.1%	14.0%	5.0%	-0.5%	4.0%	4.0%	-1.8%	4.0%	4.0%	
Add Depreciation/Amort	2,360	2,425	2,546	2,674	2,807	2,920	3,036	3,158	3,284	3,415	
% of Sales	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Plus/(minus) Changes WC	(100)	(100)	(102)	(107)	(112)	(117)	(121)	(126)	(131)	(137)	
% of Sales	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	
Subtract Cap Ex	3,540	3,638	3,819	4,010	4,211	4,379	4,554	4,737	4,926	5,123	
Capex % of sales	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	
Free Cash Flows	5,432	5,393	6,269	6,582	6,468	6,727	6,996	6,777	7,048	7,330	
% Growth		-1%	16%	5%	-2%	4%	4%	-3%	4%	4%	
NPV of Cash Flows	41,773	36%									
NPV of terminal value	72,808	64%							Terminal Value	151,721	
Projected Equity Value	114,581	100%									
Free Cash Flow Yield	4.91%								Free Cash Yield	4.83%	
Current P/E	16.48	16.48	16.49								
Projected P/E	17.07	17.07	17.09							Terminal P/E	16.5
Shares Outstanding	311.5										
Current Price	\$ 355.00										
Implied equity value/share	\$ 367.84										
Upside/(Downside) to DCF	3.6%										
Sensitivity Analysis on Share Price											
Terminal Discount Rate											
7.5% 8.0% 8.5% 9.0% 9.5% 10.0% 10.5%											
Terminal	2.0%	\$ 368.23	\$ 337.41	\$ 311.29	\$ 288.87	\$ 269.41	\$ 252.37	\$ 237.30			
FCF	2.5%	\$ 392.22	\$ 356.67	\$ 327.00	\$ 301.85	\$ 280.26	\$ 261.51	\$ 245.09			
Growth	3.0%	\$ 421.54	\$ 379.79	\$ 345.56	\$ 316.99	\$ 292.77	\$ 271.97	\$ 253.91			
	3.5%	\$ 458.19	\$ 408.04	\$ 367.84	\$ 334.88	\$ 307.36	\$ 284.03	\$ 263.99			
	4.0%	\$ 505.31	\$ 443.35	\$ 395.06	\$ 356.35	\$ 324.61	\$ 298.10	\$ 275.62			
	4.5%	\$ 568.13	\$ 488.75	\$ 429.09	\$ 382.59	\$ 345.31	\$ 314.73	\$ 289.19			
	5.0%	\$ 656.09	\$ 549.29	\$ 472.85	\$ 415.40	\$ 370.61	\$ 334.69	\$ 305.23			
	5.5%	\$ 788.02	\$ 634.04	\$ 531.19	\$ 457.57	\$ 402.23	\$ 359.08	\$ 324.48			
6.0%	\$ 1,007.91	\$ 761.16	\$ 612.86	\$ 513.80	\$ 442.89	\$ 389.58	\$ 348.00				

Overview of Caterpillar's Business Segments

Excavation



Track Excavators
small, medium, large

Wheel Excavators

Work Tools

Earthmoving



Medium Tractor Products

Medium Wheel Loaders

Motor Graders

Paving Products

SEM Products

Building Construction Products



Backhoe Loaders

Compact Track Loaders

Compact Wheel Loaders

Small Wheel Loaders

UTV

Small Track-Type Tractors

Mini Hydraulic Excavators

Skid Steer Loaders

Telehandlers

Construction Industries
43% of sales in 2020

Resource Industry Product Portfolio



Large Track Type Tractors

Off-Highway Trucks

Wheel Tractor Scrapers

Articulated Trucks

Landfill Compactors

Large Wheel Loaders

Rotary Drills

Hard Rock Vehicles

Longwall Miners

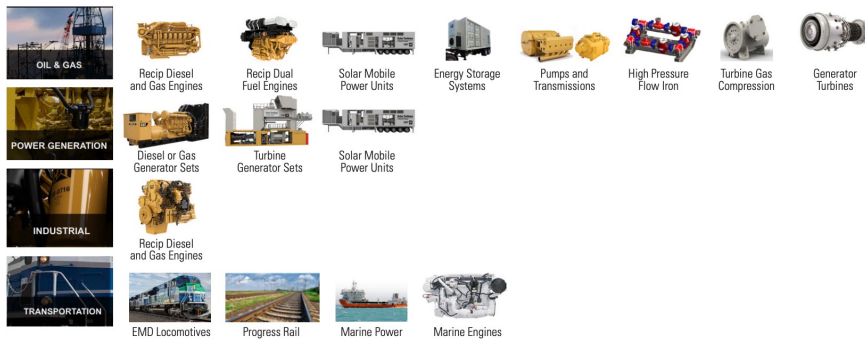
Large Mining Trucks

Hydraulic Shovels

Electric Rope Shovels

Draglines

Resources Industries
18% of sales in 2020



OIL & GAS
Recip Diesel and Gas Engines

Recip Dual Fuel Engines

Solar Mobile Power Units

Energy Storage Systems

Pumps and Transmissions

High Pressure Flow Iron

Turbine Gas Compression

Generator Turbines

POWER GENERATION
Diesel or Gas Generator Sets

Turbine Generator Sets

Solar Mobile Power Units

Recip Diesel and Gas Engines

INDUSTRIAL
Recip Diesel and Gas Engines

TRANSPORTATION
EMD Locomotives

Progress Rail Services

Marine Power Solutions

Marine Engines

Energy and Transportation
34% of sales in 2020

Competition of Caterpillar

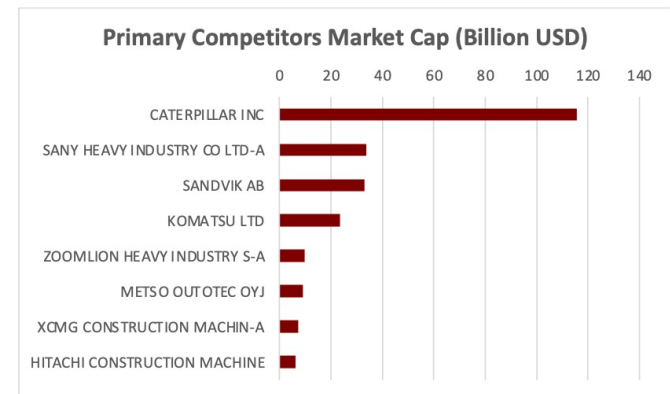
Market Leader in Size and Cash Flow.
Absolutely No.1 in Construction Equipment Manufacturing industry

Table 2: Caterpillar Outperformance Its Competitors in Size and Cash

	Mkt Cap	Net Sales	FCF T12M	ROE	EPS	FCF/Share
CATERPILLAR INC	115.30B	48.41B	5.55B	33%	10.56	10.16
DEERE & CO	111.91B	42.43B	5.29B	38%	18.18	16.91
KOMATSU LTD	26.67B	23.48B	1.68B	9%	1.62	1.78
SANDVIK AB	32.68B	10.85B	1.40B	19%	1.34	1.11
SANY HEAVY INDUSTRY CO LTD-A	30.23B	17.67B	1.15B	26%	0.27	0.14
ZOOMLION HEAVY INDUSTRY S-A	8.99B	11.42B	664.68M	16%	0.12	0.15
DOOSAN HEAVY INDUSTRIES	11.67B	12.76B	661.35M	-5%	0.49	1.81
HITACHI CONSTRUCTION MACHINE	7.06B	8.62B	530.20M	8%	1.93	2.51
XCMG CONSTRUCTION MACHIN-A	7.52B	14.22B	521.82M	18%	0.11	0.07
CHINA SHIPBUILDING INDUSTRY-A	5.99B	4.25B	38.35M	1%	0.02	0.02
ZHEJIANG DINGLI MACHINERY -A	5.55B	688.63M	-52.56M	19%	0.24	-0.11

Source: Data Collected from Bloomberg, OSU SIM

Figure 9: Primary Competitors Market Cap



Source: Bloomberg, OSU SIM (As of September 3, 2021)

Investment Thesis: A NEW INDUSTRIAL REVOLUTION



Short-term: Economic Growth

- Recovering economy
- Rising commodity prices and miners' expenditure plan

Mid-term: Infrastructure Plan

- 33% of total CAT revenue will be benefited directly or indirectly

Long-term: Technology Revolution

- \$35 Billion from Autonomous in 10 years
- 120K unites potential sales from green energy products sales in China (5 years)

Short-term Economic Growth: Increasing Needs in Emerging Market

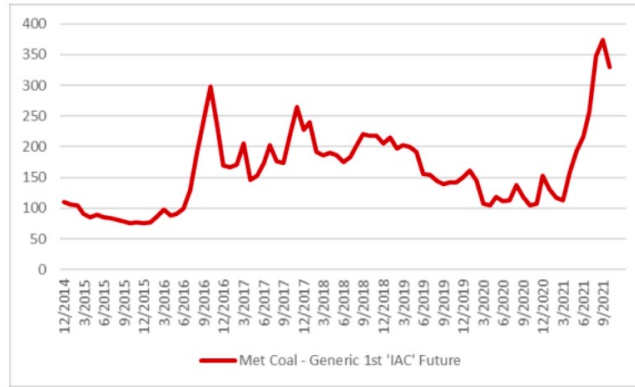
Table 4: Global Construction Equipment Market (Units)

	2016	2017	2018	2019	2020	2021e	2022e	2023e	2024e	2025e
China	120,462	216,780	301,158	316,093	412,440	405,115	354,100	294,000	307,000	328,000
Europe	143,304	162,462	178,112	187,119	159,530	182,900	189,000	180,100	177,000	173,950
India	52,603	60,517	80,768	68,695	61,960	68,890	78,550	87,000	87,500	88,100
Japan	59,700	66,715	63,705	65,645	67,645	68,400	65,600	65,000	65,500	65,000
North America	157,303	173,401	196,213	194,821	164,670	187,100	209,000	218,650	211,000	205,000
Rest of the World	187,462	239,212	322,051	269,715	237,996	251,787	247,071	237,883	245,062	256,105
Total	720,834	919,087	1,142,007	1,102,088	1,104,241	1,164,192	1,143,321	1,082,633	1,093,062	1,116,155
China		80%	39%	5%	30%	-2%	-13%	-17%	4%	7%
Europe		13%	10%	5%	-15%	15%	3%	-5%	-2%	-2%
India		15%	33%	-15%	-10%	11%	14%	11%	1%	1%
Japan		12%	-5%	3%	3%	1%	-4%	-1%	1%	-1%
North America		10%	13%	-1%	-15%	14%	12%	5%	-3%	-3%
Rest of the World		28%	35%	-16%	-12%	6%	-2%	-4%	3%	5%
Total		28%	24%	-3%	0%	5%	-2%	-5%	1%	2%

Source: Off-Highway Research historical data for key regions and Cowen and Company data and estimate

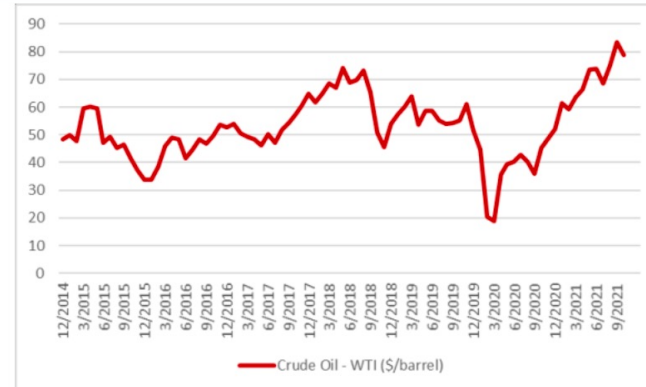
Short-term Economic Growth: Rising Commodity Price Spurs Mining Business Demand

Figure 15: Coal Price Up Significantly YTD



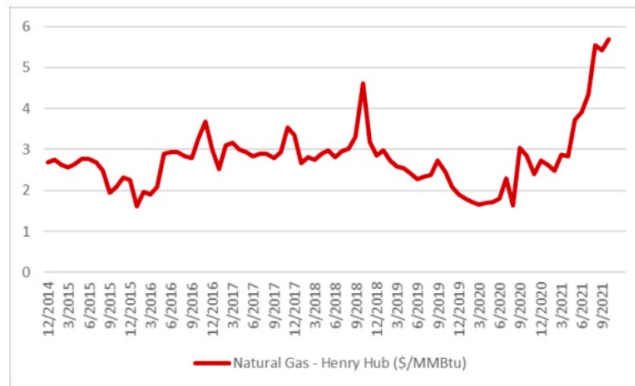
Source: Bloomberg, OSU SIM

Figure 16: Oil Price Continues to Recover



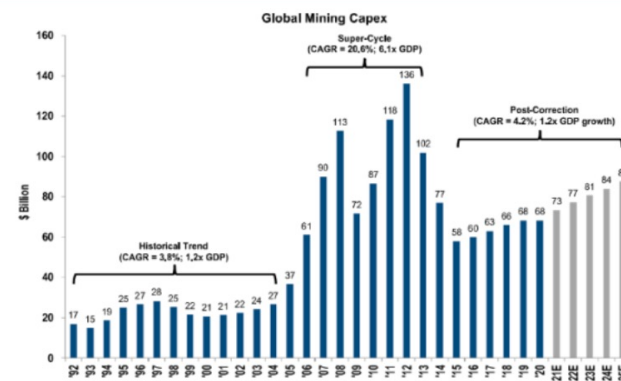
Source: Bloomberg, OSU SIM

Figure 17: Natural Gas Price Continues to Surge



Source: Bloomberg, OSU SIM

Figure 18: Forecasting Long-term Mining Capex at 1.2x GDP



Source: Company Reports, J.P. Morgan Estimates

Mid-term Infrastructure Plan:

33% of the total revenues of CAT will benefit from the bill

Figure 19: Bipartisan Infrastructure Framework

	Amount (Billions)
Total	\$ 579
Transportation	\$ 312
Roads, bridges, major projects	\$ 109
Safety	\$ 11
Public transit	\$ 49
Passenger and Freight Rail	\$ 66
EV infrastructure	\$ 8
Electric buses / transit	\$ 8
Reconnecting communities	\$ 1
Airports	\$ 25
Ports & Waterways	\$ 16
Infrastructure Financing	\$ 20
Other Infrastructure	\$ 266
Water infrastructure	\$ 55
Broadband infrastructure	\$ 65
Environmental remediation	\$ 21
Power infrastructure incl. grid authority	\$ 73
Western Water Storage	\$ 5
Resilience	\$ 47

Source: The White House, OSU SIM

Figure 20: Infrastructure Bill New Funding Areas



Source: The White House, OSU SIM

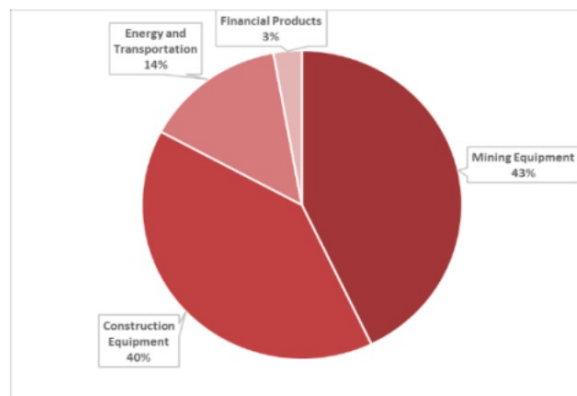
Long-term Technology Revolution: Automation Brings \$35 Billion Opportunities in 10 years

Why Automation? **Safe and Save!** Working 24*7 without fatal accidents

- The **global mining equipment** market: \$130 billion by 2050 (**9% CAGR**)
3% Related to Automation
- The **global construction equipment** market: **5% CAGR** in the next 5 years
2%-4% Related to Automation
- **Energy & Transportation business** might approach **\$5 billion** by 2030

Table 6: CAT's Total Revenue Opportunity from Autonomy and Automation in the Next 10 Years

CAT Segment	Revenue Opportunity (Billion USD)
Mining Equipment	\$ 15
Construction Equipment	\$ 14
Energy and Transportation	\$ 5
Financial Products	\$ 1
Total Potential Opportunity	\$ 35



Source: Cowen and Company, OSU SIM

Long-term Technology Revolution: The Chinese Electrical Products Market Looks Promising

China: “carbon emission peak” goal by **2030**, and the “carbon neutral” pledge by **2060**

As government guidance, **electric-powered car** sales must have reached **60%** and **50%** of all heavy vehicle sales must be electric by 2035

We anticipate that by **2025**, electric manufacturing and sales of those four categories of construction vehicles would reach **120,000 units**, with a **25% penetration rate**

Table 7: Major Electrification Products Estimation in China by 2025

CAT Segment	Recent 5 years average sales (units)	Electrification penetration rate hypothesis					Sales forecast of electrified construction machinery products				
		2021	2022	2023	2024	2025	2021	2022	2023	2024	2025
Mixer trucks	65000	2.00%	6.00%	12.00%	30.00%	50.00%	1300	3900	7800	19500	32500
Muck trucks	105000	1.50%	4.00%	10.00%	20.00%	40.00%	1575	4200	10500	21000	42000
Excavators	200000	0.00%	0.50%	3.00%	7.00%	15.00%	0	1000	6000	14000	30000
Loaders	100000	0.00%	0.50%	3.00%	6.00%	13.00%	0	500	3000	6000	13000
Total	470000						2875	9600	27300	60500	117500

Source: OSU SIM collected data from China Construction Machinery Association, China Automobile Industry Association

Comparable Company Valuation: \$239.56

Table 8: Comparable Multiple Valuation (As of November 4, 2021)

	Market Cap	P/E	P/S	P/B	P/Cash Flow	EV/EBIT
Median	11.62B	19.72	1.4	2.87	11.8	15.59
CATERPILLAR INC	113.49B	20.04	2.37	6.81	14.26	17.16
DEERE & CO	110.32B	19.72	2.62	7.01	14.25	13.64
SANDVIK AB	32.58B	21.07	3.02	3.91	14.94	15.59
SANY HEAVY INDUSTRY CO LTD-A	29.48B	12.04	1.63	2.92	10.74	10.9
KOMATSU LTD	26.29B	17.77	1.14	1.44	9.62	15.11
DOOSAN HEAVY INDUSTRIES	11.62B	177.48	0.71	2.87	--	30.37
ZOOMLION HEAVY INDUSTRY S-A	8.87B	7.94	0.79	1.08	5.78	8.3
XCMG CONSTRUCTION MACHIN-A	7.52B	8.3	0.52	1.35	6.54	11.11

Table 9: Comparable Multiples Valuation (As of November 4, 2021)

Absolute Valuation	Current Stock Price	Current Multiples	Your Target Multiple	Target/Current	Target Price
P/E	203.59	20.04	25	125%	253.98
P/B	203.59	6.81	7	103%	209.27
P/S	203.59	2.37	3	127%	257.71
P/EBITDA	203.59	17.16	20	117%	237.28
Average	203.59	11.595	13.75	118%	239.56

Source: Bloomberg, OSU SIM

DCF Valuation: \$241.24, Up 17.9% - HOLD

Analyst: Jeremy Gao
Date: 11/04/2021

Terminal Discount Rate = 10.0%
Terminal FCF Growth = 3.5%

Year	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Revenue	48,630	55,100	59,851	63,442	68,200	74,338	80,285	86,707	93,644	98,326	103,243
% Growth		13.3%	8.6%	6.0%	7.5%	9.0%	8.0%	8.0%	8.0%	5.0%	5.0%
Operating Income	8,060	9,070	9,772	10,468	11,594	12,637	13,648	15,174	16,388	17,207	18,067
Operating Margin	16.6%	16.5%	16.3%	16.5%	17.0%	17.0%	17.0%	17.5%	17.5%	17.5%	17.5%
Interest and Other	(564)	(645)	(706)	(952)	(1,023)	(1,115)	(1,204)	(1,301)	(1,405)	(1,475)	(1,549)
Interest % of Sales	-1.2%	-1.2%	-1.2%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%
Taxes	1,949	2,191	2,266	2,474	2,748	2,996	3,235	3,607	3,896	4,090	4,295
Tax Rate	26.0%	26.0%	25.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%
Net Income	5,556	6,254	6,814	7,042	7,823	8,527	9,209	10,266	11,087	11,642	12,224
% Growth		12.6%	9.0%	3.3%	11.1%	9.0%	8.0%	11.5%	8.0%	5.0%	5.0%
Add Depreciation/Amort	2,400	2,755	3,591	3,489	3,615	3,940	4,255	4,595	4,963	5,211	5,472
% of Sales	4.9%	5.0%	6.0%	5.5%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%
Plus/(minus) Changes WC	(1,532)	(3,689)	(1,454)	(1,903)	(2,046)	(2,230)	(2,409)	(2,601)	(2,809)	(2,950)	(3,097)
% of Sales	-3.1%	-6.7%	-2.4%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%
Subtract Cap Ex	2,311	2,480	2,693	2,855	2,728	2,974	3,211	2,601	2,809	2,950	2,065
Capex % of sales	4.8%	4.5%	4.5%	4.5%	4.0%	4.0%	4.0%	3.0%	3.0%	3.0%	2.0%
Free Cash Flow	4,113	2,841	6,259	5,773	6,663	7,263	7,844	9,659	10,432	10,954	12,534
% Growth		-30.9%	120.3%	-7.8%	15.4%	9.0%	8.0%	23.1%	8.0%	5.0%	14.4%
NPV of Cash Flows	44,881	37%									
NPV of terminal value	76,944	63%									
Projected Equity Value	121,826	100%							Terminal Value	199,574	
Free Cash Flow Yield	4.00%								Free Cash Yield	6.28%	
Current P/E	18.5	16.4	15.1						Terminal P/E	16.3	
<i>Projected P/E</i>	21.9	19.5	17.9								
Current EV/EBITDA	12.5	11.0	9.8						Terminal EV/EBITDA	9.6	
<i>Projected EV/EBITDA</i>	14.3	12.6	11.2								
Shares Outstanding	505										
Current Price	\$ 203.59										
Implied equity value/share	\$ 241.24										
Upside/(Downside) to DCF	18.5%										
Debt	37,593										
Cash	10,028										
Cash/share	19.86										
				241.24	7.00%	8.00%	9.00%	10.00%	11.00%	12.00%	13.00%
				0.50%	299.51	252.90	217.63	190.10	168.08	150.10	135.18
				1.50%	337.27	278.37	235.56	203.14	177.80	157.51	140.93
				2.50%	391.81	313.09	259.00	219.65	189.82	166.48	147.77
				3.50%	477.53	363.26	290.96	241.24	205.04	177.57	156.05
				4.50%	631.81	442.09	337.13	270.68	224.94	191.60	166.28
				5.50%	991.81	583.98	409.69	313.21	252.08	209.96	179.24
				6.50%	2,791.80	915.07	540.29	380.04	291.28	235.00	196.19

Target: \$241.24

Range: \$135.18 – \$2791.8

Current: \$204.49

52W Range: \$151.16 – 244

Potential: Up 17.9%

Risk:

Economic Growth

Lower Demand

More Competition in tech

Overview

- Although the Company has key business drivers such as their acquisition of TNT to aid in international expansion, COVID impact to increase B2B business, and the Company net benefitting from COVID and the holiday season, recent news along with the current holdings of FedEx cause us to recommend a HOLD
- With the Omicron Variant, we wanted to change the rating to a HOLD. Reason we are keeping it at a HOLD is because we are expecting a strong holiday season

Competitive Advantages:

- FedEx services many business segments in the US and their services are integrated
- FedEx's focus on digital innovation will help the Company with efficiency with their data collection

FedEx Overview



Company data

Ticker	NYSE: FDX
Sector	Industrials
Industry	Air Freight & Logistics
Price (9/30/21)	\$248.53
52-week high (5/27/21)	\$319.90
52-week low (10/5/21)	\$216.34
Shares Outstanding	266
Market Cap (mm)	\$66,022

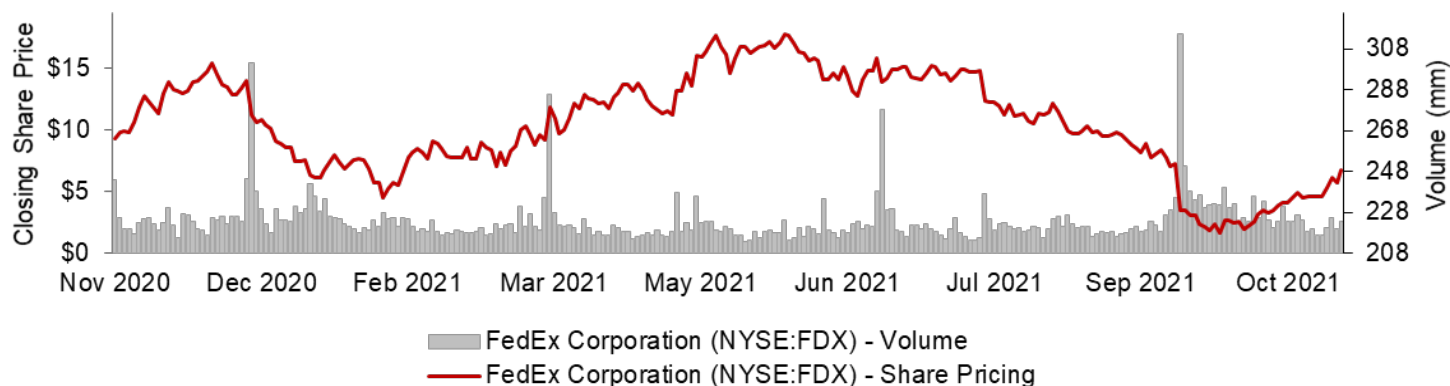
Recommendation

Recommendation	HOLD
Price Target	\$280.74
Implied Upside	21%

Key Statistics

Revenue	\$134.10
Adj. EPS	\$17.68
Adj. EBITDA	\$12,500
EV / EBITDA	10.0x
P / E	14.1x
Dividend Yield	1.2%

LTM Share Performance



FedEx Valuation



NPV of Cash Flows	32,639	44%
NPV of terminal value	41,940	56%
Projected Equity Value	74,579	100%
Free Cash Flow Yield	5.59%	

Current P/E	114.2	47.9	19.0
Projected P/E	138.3	58.0	23.0
Current EV/EBITDA	11.7	15.1	9.4
Projected EV/EBITDA	13.3	17.3	10.8

Shares Outstanding ▼ **266**

Current Price	\$ 231.95
Implied equity value/share	\$ 280.74
Upside/(Downside) to DCF	21.0%

Debt	36,324
Cash	6,853
Cash/share	25.80

Terminal Value **100,289**

Free Cash Yield **6.08%**

Terminal P/E **14.0**

Terminal EV/EBITDA **7.8**

WACC

cost of debt after tax	5.25%
ST + LT debt	36324
unlevered beta	0.46
total equity	24321
Debt / equity	60%
Equity / debt	40%
Levered beta	1.305036
Risk free rate	1.33%
Market risk premium	9%
CAPM	13%
WACC	9%

Business Overview – United Airlines

Key Business Drivers

- Pandemic – Omicron variant

The newest variant is concerning for many reasons. Even if it does not cause another lockdown, cautious travelers will be less inclined to travel. With Biden's current requirements in place for air travel that travelers be masked and get tested within a day of traveling

- Demand – Business travel down

Business travel accounts for only 12% of airline passengers, but it makes up over 50% of profits, with some airlines seeing as much as 75% of profits from business travel. This has not rebounded since the start of the pandemic, as more companies are choosing Zoom over expensive trips.

- Economic – Infrastructure bill

One positive driver for the airline industry is the recent infrastructure bill that was passed which sets aside \$20 billion for airlines to update their infrastructure over the next five years. However, this does not seem to outweigh the current turmoil related to the pandemic.

Financial Overview - United Airlines

UAL								
	FY	FY	FY	FY	FY	FY	FY	FY
000s	2023E	2022E	2021E	2020	2019	2018	2017	2016
Consensus	45,504.00	40,238.00	25,290.00					
Passenger	36,374.16	29,099.33	17,117.25	11,805.00	39,625.00	37,706.00	34,460.00	31,457.00
Cargo	1,782.66	1,765.01	1,730.40	1,648.00	1,179.00	1,237.00	1,114.00	876.00
Other Operating Revenue	2,077.78	2,037.04	1,997.10	1,902.00	2,455.00	2,360.00	2,210.00	4,223.00
Total Operating Revenue	40,234.60	32,901.38	20,844.75	15,355.00	43,259.00	41,303.00	37,784.00	36,556.00
Salaries and Related Costs	12,070.38	11,515.48	9,380.14	9,522.00	12,071.00	11,458.00	10,941.00	10,275.00
Aircraft Fuel	10,058.65	9,870.41	8,337.90	3,153.00	8,953.00	9,307.00	6,913.00	5,813.00
Regional Capacity Purchase	2,816.42	1,645.07	1,980.25	2,039.00	2,849.00	2,601.00	2,232.00	2,197.00
Landing Fees and Other Rent	2,816.42	1,645.07	2,084.48	2,127.00	2,543.00	2,359.00	2,240.00	2,165.00
Depreciation and Amortization	1,609.38	1,316.06	1,876.03	2,488.00	2,288.00	2,240.00	2,149.00	1,977.00
Aircraft Mtn Materials and Outside Repairs	1,609.38	1,645.07	1,042.24	858.00	1,794.00	1,767.00	1,856.00	1,749.00
Distribution Expenses	1,207.04	1,316.06	833.79	459.00	1,651.00	1,558.00	1,435.00	1,303.00
Aircraft Rent	402.35	329.01	208.45	198.00	288.00	433.00	621.00	680.00
Special Charges	402.35	329.01	208.45	(2,616.00)	246.00	487.00	176.00	638.00
Other Operating Expenses	5,632.84	3,948.17	4,168.95	3,486.00	6,275.00	5,801.00	5,550.00	5,421.00
Total Operating Expenses	38,625.21	33,559.40	30,120.66	21,714.00	38,958.00	38,011.00	34,113.00	32,218.00
Operating Income	1,609.38	(658.03)	(9,275.91)	(6,359.00)	4,301.00	3,292.00	3,671.00	4,338.00
Interest Expense	(402.35)	(329.01)	(208.45)	(1,063.00)	(731.00)	(729.00)	(671.00)	(614.00)
Interest Capitalized	100.59	82.25	52.11	71.00	85.00	70.00	84.00	72.00
Interest Income	100.59	164.51	104.22	50.00	133.00	101.00	57.00	42.00
Unrealized Gains on Investments, net	201.17	164.51	156.34	(194.00)	153.00	-	-	
Miscellaneous, net	(100.59)	(164.51)	(104.22)	(1,327.00)	(27.00)	(76.00)	(101.00)	(19.00)
Total Nonoperating Expenses	(100.59)	(82.25)	-	(2,463.00)	(387.00)	(634.00)	(631.00)	(519.00)
Income Before Income Taxes	1,508.80	(740.28)	(9,275.91)	(8,822.00)	3,914.00	2,658.00	3,040.00	3,819.00
Income Tax Expense	347.02	(170.26)	(2,133.46)	(1,753.00)	905.00	529.00	896.00	1,556.00
Net Income	1,161.77	(570.02)	(7,142.45)	(7,069.00)	3,009.00	2,129.00	2,144.00	2,263.00





Valuation – United Airlines

Analyst: Katherine Hart 12/7/2021		Terminal Discount Rate = 14.0%									
000s		Terminal FCF Growth = 3.0%									
Year	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Revenue	20,845	32,901	40,235	41,844	43,518	45,258	47,069	48,952	50,910	52,946	55,064
% Growth		57.8%	22.3%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Operating Income	(9,276)	(658)	1,609	2,511	2,611	2,716	2,824	2,937	3,055	3,177	3,304
Operating Margin	-44.5%	-2.0%	4.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Interest Expense (Income)	(208)	(329)	(402)	84	87	91	94	98	102	106	110
Interest % of Sales	-1.0%	-1.0%	-1.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Income Before Taxes	(9,276)	(740)	1,509	2,427	2,524	2,625	2,730	2,839	2,953	3,071	3,194
Taxes	(2,133)	(170)	347	558	581	604	628	653	679	706	735
Tax Rate	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Net Income	(7,142)	(570)	1,162	1,869	1,944	2,021	2,102	2,186	2,274	2,365	2,459
% Growth		-92.0%	-303.8%	60.9%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Add Depreciation/Amort	1,876	1,316	1,609	1,674	1,741	1,810	1,883	1,958	2,036	2,383	2,478
% of Sales	9.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.5%	4.5%
Plus/(minus) Changes WC	100	(50)	(100)	(104)	(108)	(112)	(117)	(122)	(127)	(132)	(137)
% of Sales	0.5%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Subtract Cap Ex	920	840	950	1,255	1,523	1,810	2,118	2,448	2,545	2,647	2,753
Capex % of sales	4.4%	2.6%	2.4%	3.0%	3.5%	4.0%	4.5%	5.0%	5.0%	5.0%	5.0%
Free Cash Flow	(6,086)	(144)	1,721	2,183	2,053	1,909	1,750	1,575	1,638	1,968	2,047
% Growth		-97.6%	-1295.6%	26.6%	-6.0%	-7.0%	-8.3%	-10.0%	4.0%	20.2%	4.0%
NPV of Cash Flows	8,037										
NPV of terminal value	5,170									Terminal Value	19,167
Projected Equity Value	13,207	100%									
Free Cash Flow Yield	-49.52%									Free Cash Yield	10.68%
Current P/E	(1.7)	(21.6)	10.6							Terminal P/E	7.8
<i>Projected P/E</i>	(1.8)	(23.2)	11.4								
Current EV/EBITDA	(4.2)	47.6	9.7							Terminal EV/EBITDA	6.6
<i>Projected EV/EBITDA</i>	(4.4)	49.0	10.0								
Shares Outstanding	279.40										
Current Price	\$ 43.99										
Implied equity value/share	\$ 47.27										
Upside/(Downside) to DCF	7.5%										
Debt	40,081										
Cash	21,068										
Cash/share	75.40										

Target Price: \$47.27

SIM Recommendation

Recommend Maintaining Industrials In Line w/ S&P at ~8%

SIM Industrials Recommendation Table				
				
Current Price	\$355	\$204	\$247	\$44.73
Current SIM Weighting	1.28%	1.01%	4.15%	1.64%
Recommendation	Hold	Hold	Hold	Hold
Proposed SIM Weighting	1.28%	1.01%	4.15%	1.64%
Target Price	\$368	\$241	\$281	\$47.27
Expected Return	3.7%	18.1%	13.8%	5.7%
Key Catalyst	Rising Crop Prices	Rising Infrastructure Spend	Continual E-commerce Growth	No International Travel Restrictions
Primary Risk	Equipment demand cyclically softens after strong buying period	Equipment demand cyclically softens after strong buying period	Slowing Economic Activity	Sustained COVID restrictions in the future

Questions?