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## **Caterpillar Inc. (CAT-US)**

### **Machinery**

- We are upgrading our rating on CAT from Underperform to Neutral as both opportunity and uncertainty continues to surround the company.
- Increases in infrastructure spending would create a tremendous opportunity.
- Business Performance could start to show gradual signs of improving.
- Ongoing focus on reducing costs and restructuring should start to pay off.
- The Federal Probe regarding export filings related to its Swiss subsidiary CSARL could have a negative impact, however we believe the Trump Administration may be open to negotiating a settlement.

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**Company Note**
**Caterpillar Inc. (CAT-US)**  
 Machinery

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**Research Action:**

Upgrade Rating

Rating: Neutral

Prior Rating: Underperform

Price 03/15/2017: \$93.36

 52 Week High /  
 Low: \$99.46  
 \$69.04

**Key Data: (TTM as of Dec-16)**

Excess Cash per Share: \$11.33

Annual Dividend: \$3.08

Dividend Yield: 3.34%

Ave. Volume (30 Day): 6.4M

Shares Outstanding: 586.5M

Float: 585.2M

Equity MV: \$54,138.5M

Sales TTM: \$38,537.0M

Beta: 1.43

EBITDAR: \$7,752.3M

NOPAT: -\$912.2M

Total Invested Capital: \$47,539.5M

Return on Capital: -1.76%

Cost of Capital: 4.61%

Economic Profit: -\$3,303.1M

Market Value Added: \$44,224.5M

Current Operations Value: -\$24,157.8M

Future Growth Value: \$115,921.7M

- **We are upgrading our rating on CAT from Underperform to Neutral as both opportunity and uncertainty continues to surround the company.** CAT is best positioned to gain from the Trump Administration's focus on infrastructure improvements. However, global economic headwinds and the negative trend of commodity and oil prices continue to pressure Business Performance. The Federal Probe regarding export filings related to its Swiss subsidiary CSARL if proven could have a negative impact. We currently feel the company is fairly valued based on our Performance, Risk and Valuation measures. As business trends become clearer, and CAT's cost-cutting and restructuring efforts start to produce positive results, we would anticipate becoming more positive.
- **Increases in infrastructure spending would create a tremendous opportunity.** Current indications from the Trump Administration of \$1 trillion plus in infrastructure spending would create significant opportunity for CAT as they are the leading provider of heavy construction equipment. As economies improve in both the US and globally, CAT is well positioned to benefit. We believe CAT would play a major role in any US infrastructure improvement projects thus representing a significant upside opportunity for the shares.
- **Business Performance could start to show gradual signs of improving.** CAT recently reported a slight uptick in China. This positive trend in the China is the first time in over four years that CAT has seen an uptick in the Asia region. Both CAT's Construction Industries and Resource Industries are showing signs of improvement. In Q4 2016, CAT reported a 21% increase in Construction Equipment sales in Asia-Pacific driven by increases infrastructure and residential construction spending in China.
- **Ongoing focus on reducing costs and restructuring should start to pay off.** In 2015, CAT initiated a significant restructuring and cost reduction initiative with the focus of streamlining operational efficiencies. CAT's goals include consolidating and/or closing manufacturing facilities and workforce reductions. We would be concerned that any plans to move production outside the US for products used in the US could have negative implications based on the Trump Administrations strong stance against exporting US jobs. In Jan 2017, CAT announced it is contemplating closure of the Aurora, IL, manufacturing facility and moving machine production from the facility to other U.S. manufacturing facilities. In 2017, CAT is estimating additional cost reductions of over \$750 million.

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**Caterpillar Inc. (CAT-US)****Machinery**

- **The Federal Probe regarding export filings related to its Swiss subsidiary CSARL could have a negative impact, however we believe the Trump Administration may be open to negotiating a settlement.** CAT is currently facing inquiry due to the shifting of profits from the US to its Swiss affiliate. The issue involves about \$2 billion in taxes that were avoided in the years 2010 to 2012. A negative ruling could restrict Caterpillar from participating in federal construction contracts and have further negative impact. The one bright spot may be the fact that the Trump Administrations focus on American companies and deal making may create an opportunity for CAT to settle this in light of the fact that the Trump Administration may feel it's best to bring closure to this for both CAT and the US government. We believe that the Trump Administrations favorable look on iconic American companies and large US employers may open the door for a fast and equitable settlement.

**Investment Thesis**

CAT is the world's leading manufacturer of heavy construction and mining equipment, diesel and natural gas engines and industrial gas turbines. It is also a leading exporter in the U.S. with more than half of its sales being generated outside the US. A multi-year global slowdown in construction spending combined with the significant drop in oil and other mining base commodities has caused a multi-year decline in revenue, operating cash flow, and return on capital. We believe there is a potential for CAT to resume positive financial performance as global construction picks up and its opportunity to participate in a significant expansion in infrastructure spending in the US.

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**Caterpillar Inc. (CAT-US)**  
**Financial Data**
**Machinery**

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017		Average	Average	Trend
<b>Net Sales Revenue</b>	\$60,138.0	\$65,875.0	\$55,656.0	\$55,184.0	\$47,011.0	\$38,537.0	\$37,916.4	\$52,452.6	\$46,910.7	\$38,226.7	
Sales Growth	41.21%	9.54%	-15.51%	-0.85%	-14.81%	-18.03%	-1.61%	-7.93%	-11.23%	-9.82%	
Sales Growth Trend	37.21%	22.21%	-5.49%	-6.71%	-9.23%	-16.74%	-8.18%	-3.19%	-10.89%	-12.46%	
<b>Cash Operating Expenses</b>	\$47,012.0	\$50,635.2	\$43,564.5	\$43,380.0	\$37,876.4	\$30,673.8	\$30,178.2	\$41,226.0	\$37,310.1	\$30,426.0	
% of Sales	78.17%	76.87%	78.27%	78.61%	80.57%	79.60%	79.59%	78.78%	79.59%	79.59%	
<b>Operating Cash Flow (EBITDAR)</b>	\$13,126.0	\$15,239.8	\$12,091.5	\$11,804.0	\$9,134.6	\$7,863.2	\$7,738.2	\$11,226.6	\$9,600.6	\$7,800.7	
EBITDAR Margin	21.83%	23.13%	21.73%	21.39%	19.43%	20.40%	20.41%	21.22%	20.41%	20.41%	
EBITDAR Growth	42.47%	16.10%	-20.66%	-2.38%	-22.61%	-13.92%	-1.59%	-8.69%	-12.97%	-7.75%	
<b>Economic Operating Expenses</b>	\$5,253.0	\$5,753.0	\$5,569.0	\$5,689.0	\$5,582.0	\$5,360.0	\$4,561.6	\$5,590.6	\$5,543.7	\$4,960.8	
% of Sales	8.73%	8.73%	10.01%	10.31%	11.87%	13.91%	12.03%	10.97%	12.03%	12.97%	
<b>Net Operating Profit Before Tax (NOPBT)</b>	\$7,873.0	\$9,486.8	\$6,522.5	\$6,115.0	\$3,552.6	\$2,503.2	\$3,176.6	\$5,636.0	\$4,056.9	\$2,839.9	
NOPBT Margin	13.09%	14.40%	11.72%	11.08%	7.56%	6.50%	8.38%	10.25%	8.38%	7.44%	
NOPBT Growth	69.21%	20.50%	-31.25%	-6.25%	-41.90%	-29.54%	26.90%	-17.69%	-25.90%	-1.32%	
<b>Cash Operating Income Tax</b>	\$2,013.6	\$2,911.9	\$1,677.7	\$1,660.2	\$923.3	\$826.1	\$912.1	\$1,599.8	\$1,136.5	\$869.1	
Economic Tax Effective Rate	25.58%	30.69%	25.72%	27.15%	25.99%	33.00%	28.71%	28.51%	28.71%	30.86%	
<b>Net Operating Profit After Tax (NOPAT)</b>	\$5,859.4	\$6,574.9	\$4,844.8	\$4,454.8	\$2,629.3	\$1,677.2	\$2,264.5	\$4,036.2	\$2,920.4	\$1,970.8	
NOPAT Margin	9.74%	9.98%	8.70%	8.07%	5.59%	4.35%	5.97%	7.34%	6.01%	5.16%	
NOPAT Growth	69.75%	12.21%	-26.31%	-8.05%	-40.98%	-36.21%	35.02%	-19.87%	-28.41%	-0.60%	
<b>Cash &amp; Equivalents</b>	\$4,591.0	\$7,129.0	\$7,704.0	\$8,957.0	\$8,147.0	\$8,566.0	\$7,865.6	\$8,100.6	\$8,556.7	\$8,215.8	
<b>Total Assets</b>	\$81,446.0	\$89,356.0	\$84,896.0	\$84,681.0	\$78,497.0	\$74,704.0	\$68,595.8	\$82,426.8	\$79,294.0	\$71,649.9	
<b>Non - Interest Bearing Liabilities (NIBLs)</b>	\$30,744.0	\$29,720.0	\$24,264.0	\$25,708.0	\$23,077.0	\$22,960.0	\$21,082.7	\$25,145.8	\$23,915.0	\$22,021.3	
<b>Net Assets</b>	\$50,183.0	\$59,586.0	\$60,565.0	\$58,893.0	\$55,344.0	\$51,668.0	\$47,443.4	\$57,211.2	\$55,301.7	\$49,555.7	
<b>Economic Asset Adjustments</b>	\$2,305.0	\$2,577.4	\$2,001.1	\$2,842.4	\$2,444.0	(\$2,498.9)	(\$2,294.6)	\$1,473.2	\$929.2	(\$2,396.8)	
<b>Net Operating Assets</b>	\$52,488.0	\$62,163.4	\$62,566.1	\$61,735.4	\$57,788.0	\$49,169.1	\$45,148.8	\$58,684.4	\$56,230.8	\$47,158.9	
<b>Debt &amp; Debt Equivalents</b>	\$35,856.0	\$41,060.4	\$38,607.1	\$40,081.4	\$38,939.0	\$37,507.1	\$34,440.3	\$39,239.0	\$38,842.5	\$35,973.7	
<b>Equity &amp; Equivalents</b>	\$12,883.0	\$17,532.0	\$20,811.0	\$16,746.0	\$14,809.0	\$13,137.0	\$12,062.9	\$16,607.0	\$14,897.3	\$12,599.9	
<b>Total Capital - Financing Sources</b>	\$48,739.0	\$58,592.4	\$59,418.1	\$56,827.4	\$53,748.0	\$50,644.1	\$46,503.2	\$55,846.0	\$53,739.8	\$48,573.6	
<b>Capital Adjustments</b>	\$1,041.0	\$1,660.0	\$1,144.0	\$2,046.0	\$1,598.0	(\$3,223.0)	(\$2,959.5)	\$645.0	\$140.3	(\$3,091.2)	
<b>Net Capital Financing Sources</b>	\$49,780.0	\$60,252.4	\$60,562.1	\$58,873.4	\$55,346.0	\$47,421.1	\$43,543.7	\$56,491.0	\$53,880.2	\$45,482.4	
<b>Net Working Capital</b>	\$21,785.9	\$24,821.8	\$20,721.8	\$20,709.2	\$19,241.6	\$16,275.9	\$14,945.1	\$20,354.0	\$18,742.2	\$15,610.5	
Cost of Net Working Capital	\$1,269.7	\$1,430.0	\$1,580.1	\$1,282.3	\$1,119.3	\$1,164.5	\$1,069.3	\$1,315.2	\$1,188.7	\$1,116.9	
% of Revenue	2.11%	2.17%	2.84%	2.32%	2.38%	3.02%	2.82%	2.55%	2.58%	2.92%	
<b>Operational Capital</b>	\$35,448.9	\$39,936.1	\$37,111.9	\$36,861.6	\$35,136.6	\$31,550.9	\$28,971.2	\$36,119.4	\$34,516.4	\$30,261.1	
Cost of Operational Capital	\$2,101.9	\$2,313.0	\$2,673.2	\$2,289.4	\$2,017.2	\$2,186.4	\$2,007.7	\$2,295.8	\$2,164.3	\$2,097.1	
% of Revenue	3.50%	3.51%	4.80%	4.15%	4.29%	5.67%	5.29%	4.49%	4.70%	5.48%	
<b>Productive Capital</b>	\$46,896.9	\$50,894.1	\$47,663.9	\$46,631.6	\$44,572.6	\$39,919.9	\$36,655.9	\$45,936.4	\$43,708.0	\$38,287.9	
Cost of Productive Capital	\$2,574.4	\$3,000.4	\$3,419.5	\$2,918.4	\$2,555.3	\$2,770.2	\$2,543.7	\$2,932.8	\$2,747.9	\$2,656.9	
% of Revenue	4.28%	4.55%	6.14%	5.29%	5.44%	7.19%	6.71%	5.72%	5.97%	6.95%	
<b>Total Operating Capital</b>	\$50,903.9	\$58,328.1	\$57,644.9	\$55,537.6	\$51,991.6	\$42,529.9	\$39,052.5	\$53,206.4	\$50,019.7	\$40,791.2	
Cost of Total Operating Capital	\$2,875.8	\$3,351.5	\$4,023.7	\$3,502.9	\$3,012.7	\$3,099.0	\$2,845.6	\$3,397.9	\$3,204.9	\$2,972.3	
% of Revenue	4.78%	5.09%	7.23%	6.35%	6.41%	8.04%	7.50%	6.62%	6.93%	7.77%	
<b>Non - Operating Capital</b>	\$1,584.1	\$3,835.3	\$4,921.2	\$6,197.8	\$5,796.5	\$6,639.2	\$6,096.3	\$5,478.0	\$6,211.1	\$6,367.7	
Cost of Non - Operating Capital	\$143.3	\$166.3	\$303.8	\$344.1	\$336.0	\$407.7	\$374.4	\$311.6	\$362.6	\$391.0	
% of Revenue	0.24%	0.25%	0.55%	0.62%	0.71%	1.06%	0.99%	0.64%	0.80%	1.02%	
<b>Total Capital</b>	\$52,488.0	\$62,163.4	\$62,566.1	\$61,735.4	\$57,788.0	\$49,169.1	\$45,148.8	\$58,684.4	\$56,230.8	\$47,158.9	
Cost of Total Capital	\$3,019.0	\$3,517.8	\$4,327.5	\$3,847.0	\$3,348.7	\$3,506.7	\$3,220.0	\$3,709.5	\$3,567.5	\$3,363.4	
% of Revenue	5.02%	5.34%	7.78%	6.97%	7.12%	9.10%	8.49%	7.26%	7.73%	8.80%	
<b>Cost of Capital (WACC)</b>	6.36%	6.14%	6.94%	6.19%	5.60%	6.56%	6.56%	6.29%	6.12%	6.56%	
Weighted After Tax Debt Cost of Capital	1.14%	1.16%	1.42%	1.26%	1.44%	1.25%	1.25%	1.31%	1.32%	1.25%	
Weighted Preferred Equity Cost of Capital	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Weighted Equity Cost of Capital	5.21%	4.98%	5.52%	4.92%	4.16%	5.30%	5.30%	4.98%	4.80%	5.30%	
<b>Capital Structure</b>											
<b>Debt &amp; Debt Equivalents</b>	\$35,856.0	\$41,060.4	\$38,607.1	\$40,081.4	\$38,939.0	\$37,507.1	\$34,440.3	\$39,239.0	\$38,842.5	\$35,973.7	
Debt & Debt Equivalents % of Market Value	37.97%	41.16%	40.00%	41.94%	49.60%	40.87%	40.87%	42.45%	43.83%	40.87%	
<b>Preferred Equity</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Preferred Equity % of Market Value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
<b>Market Value of Common Equity</b>	\$58,583.8	\$58,697.9	\$57,920.6	\$55,482.5	\$39,574.6	\$54,259.7	\$49,823.1	\$53,187.0	\$49,772.2	\$52,041.4	
Common Equity % of Market Value	62.03%	58.84%	60.00%	58.06%	50.40%	59.13%	59.13%	57.55%	56.17%	59.13%	
<b>Total Economic Market Value (MV)</b>	\$94,439.7	\$99,758.2	\$96,527.7	\$95,563.9	\$78,513.6	\$91,766.8	\$84,263.5	\$92,426.0	\$88,614.8	\$88,015.1	
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
<b>Excess Cash</b>	\$1,584.1	\$3,835.3	\$4,921.2	\$6,197.8	\$5,796.5	\$6,639.2	\$6,096.3	\$5,478.0	\$6,211.1	\$6,367.7	
<b>Economic Enterprise Value</b>	\$92,855.6	\$95,923.0	\$91,606.5	\$89,366.1	\$72,717.2	\$85,127.6	\$78,167.2	\$86,948.1	\$82,403.6	\$81,647.4	
<b>Ending Capital</b>	\$49,780.0	\$60,252.4	\$60,562.1	\$58,873.4	\$55,346.0	\$47,421.1	\$43,543.7	\$56,491.0	\$53,880.2	\$45,482.4	
- Beginning Capital	\$40,559.6	\$49,780.0	\$60,252.4	\$60,562.1	\$58,873.4	\$55,346.0	\$47,421.1	\$56,962.8	\$58,260.5	\$51,383.5	
<b>Average Capital</b>	\$45,169.8	\$55,016.2	\$60,407.2	\$59,717.8	\$57,109.7	\$51,383.5	\$45,482.4	\$56,726.9	\$56,070.3	\$48,433.0	
Capital Δ	\$9,220.3	\$10,472.4	\$309.7	(\$1,688.6)	(\$3,527.4)	(\$7,924.9)	(\$3,877.4)	(\$471.8)	(\$4,380.3)	(\$5,901.1)	

Source: Company Data, Financial statements and Tigress Research

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**Company Report – Research Update**
**Caterpillar Inc. (CAT-US)**
**Machinery**

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2017	Average	Average	Trend
Return on Market Value (NOPAT / MV)	6.20%	6.59%	5.02%	4.66%	3.35%	1.83%	1.68%	1.68%	4.29%	3.28%	1.75%
Return on Enterprise Value (NOPAT / EV)	6.31%	6.85%	5.29%	4.98%	3.62%	1.97%	1.81%	1.81%	4.54%	3.52%	1.89%
Return on Capital (NOPAT / Average Capital)	12.97%	11.95%	8.02%	7.46%	4.60%	3.26%	3.00%	3.00%	7.06%	5.11%	3.13%
Cost of Capital (WACC)	6.36%	6.14%	6.94%	6.19%	5.60%	6.56%	6.56%	6.56%	6.29%	6.12%	6.56%
Economic Return Spread	6.62%	5.81%	1.08%	1.27%	-1.00%	-3.29%	-3.02%	-3.02%	0.77%	-1.01%	-3.16%
Capital Charge	\$2,870.9	\$3,376.0	\$4,191.6	\$3,696.4	\$3,200.1	\$3,369.4	\$3,093.9	\$3,093.9	\$3,566.7	\$3,422.0	\$3,231.6
Economic Profit (EP)	\$2,988.4	\$3,198.8	\$653.2	\$758.4	(\$570.8)	(\$1,692.2)	(\$1,553.8)	(\$1,553.8)	\$469.5	(\$501.5)	(\$1,623.0)
Economic Profit Improvement (EPI)	\$2,728.1	\$210.4	(\$2,545.7)	\$105.2	(\$1,329.2)	(\$1,121.4)	\$138.4	\$138.4	(\$936.1)	(\$781.8)	(\$491.5)
EP Growth	1047.89%	7.04%	-79.58%	16.11%	-175.26%	-196.46%	8.18%	8.18%	-85.63%	-118.54%	-94.14%
Economic Profit Margin on Sales	4.97%	4.86%	1.17%	1.37%	-1.21%	-4.39%	-4.10%	-4.10%	0.36%	-1.41%	-4.24%
Economic Profit Per Share	\$4.63	\$4.90	\$1.01	\$1.23	(\$0.96)	(\$2.90)	(\$2.66)	(\$2.66)	\$0.66	(\$0.88)	(\$2.78)
GAAP Earnings Per Share	\$7.63	\$8.71	\$5.87	\$5.98	\$3.50	(\$0.12)	\$3.09	\$3.09	\$4.79	\$3.12	\$1.48
Excess Cash Per Share	\$2.45	\$5.86	\$7.73	\$10.23	\$9.95	\$11.33	\$10.41	\$10.41	\$9.02	\$10.51	\$10.87
<b>Performance Drivers</b>											
Sales Growth	41.21%	9.54%	-15.51%	-0.85%	-14.81%	-18.03%	-1.61%	-1.61%	-7.93%	-11.23%	-9.82%
Sales Growth Trend (ROC Sales Growth)	37.21%	22.21%	-5.49%	-6.71%	-9.23%	-16.74%	-8.18%	-8.18%	-3.19%	-10.89%	-12.46%
EBITDAR Margin	21.83%	23.13%	21.73%	21.39%	19.43%	20.40%	20.41%	20.41%	21.22%	20.41%	20.41%
EBITDAR Growth	42.47%	16.10%	-20.66%	-2.38%	-22.61%	-13.92%	-1.59%	-1.59%	-8.69%	-12.97%	-7.75%
NOPBT Margin	13.09%	14.40%	11.72%	11.08%	7.56%	6.50%	8.38%	8.38%	10.25%	8.38%	7.44%
NOPBT Growth	69.21%	20.50%	-31.25%	-6.25%	-41.90%	-29.54%	26.90%	26.90%	-17.69%	-25.90%	-1.32%
NOPAT Margin	9.74%	9.98%	8.70%	8.07%	5.59%	4.35%	5.97%	5.97%	7.34%	6.01%	5.16%
NOPAT Growth	69.75%	12.21%	-26.31%	-8.05%	-40.98%	-36.21%	35.02%	35.02%	-19.87%	-28.41%	-0.60%
Economic Profit Margin on Sales (EP / Sales)	4.97%	4.86%	1.17%	1.37%	-1.21%	-4.39%	-4.10%	-4.10%	0.36%	-1.41%	-4.24%
Economic Profit Growth	1047.89%	7.04%	-79.58%	16.11%	-175.26%	-196.46%	8.18%	8.18%	-85.63%	-118.54%	-94.14%
Economic Return Spread (ROC-WACC)	6.62%	5.81%	1.08%	1.27%	-1.00%	-3.29%	-3.56%	-3.56%	0.77%	-1.01%	-3.43%
Economic Return Ratio (ROC / WACC)	204.09%	194.75%	115.58%	120.52%	82.16%	49.78%	45.71%	45.71%	112.56%	84.15%	47.74%
Economic Profit Momentum ( $\Delta$ EP/Capital)	5.48%	0.35%	-4.20%	0.18%	-2.40%	-2.36%	0.32%	0.32%	-1.69%	-1.53%	-1.02%
Economic Profit Momentum Margin ( $\Delta$ EP/Sales)	4.54%	0.32%	-4.57%	0.19%	-2.83%	-2.91%	0.36%	0.36%	-1.96%	-1.85%	-1.27%
Capital Growth	22.73%	21.04%	0.51%	-2.79%	-5.99%	-14.32%	-8.18%	-8.18%	-0.31%	-7.70%	-11.25%
Capital Turns	1.21X	1.09X	0.92X	0.94X	0.85X	0.81X	0.87X	0.87X	0.92X	0.87X	0.84X
EVC Acceleration Margin	6.41%	0.35%	-3.86%	0.19%	-2.41%	-2.39%	0.36%	0.36%	-2.47%	-1.49%	-1.05%
EVC Acceleration Spread	6.67%	0.47%	-4.63%	0.17%	-2.23%	-1.96%	0.27%	0.27%	-2.06%	-1.38%	-0.88%
<b>Risk Factors</b>											
Free Cash Flow (NOPAT - $\Delta$ Capital)	(\$3,360.9)	(\$3,897.5)	\$4,535.1	\$6,143.5	\$6,156.7	\$9,602.1	\$6,141.9	\$6,141.9	\$4,508.0	\$7,300.8	\$7,872.0
Free Cash Flow Rate (FCF / Capital)	-6.75%	-6.47%	7.49%	10.44%	11.12%	20.25%	14.11%	14.11%	8.57%	13.94%	17.18%
Free Cash Flow Yield (FCF / MV)	-3.56%	-3.91%	4.70%	6.43%	7.84%	10.46%	7.29%	7.29%	5.11%	8.24%	8.88%
Total Debt / Total Capital	72.03%	68.15%	63.75%	68.08%	70.36%	79.09%	79.09%	79.09%	69.89%	72.51%	79.09%
Total Debt / EBITDAR	273.17%	269.43%	319.29%	339.56%	426.28%	476.99%	445.07%	445.07%	366.31%	414.28%	461.03%
Excess Cash	\$1,584.1	\$3,835.3	\$4,921.2	\$6,197.8	\$5,796.5	\$6,639.2	\$0.0	\$0.0	\$5,478.0	\$6,211.1	\$3,319.6
Financial Leverage ((Total Debt - Excess Cash) / Pension Leverage (Net Pension Liability / MV))	36.29%	37.32%	34.90%	35.46%	42.21%	33.64%	40.87%	40.87%	36.70%	37.10%	37.25%
Pension Leverage (Net Pension Liability / MV)	-6.95%	-6.93%	-4.30%	-5.66%	-0.09%	0.02%	0.00%	0.00%	-3.39%	-1.91%	0.01%
Equity Risk Index (S&P 500 = 1.00)	1.41	1.42	1.42	1.41	1.41	1.42	1.42	1.42	1.42	1.41	1.42
Stock Price Volatility	4.78	4.41	2.96	2.85	3.46	3.61	3.61	3.61	3.46	3.31	3.61
Sales Index (NL Sales)	11.00	11.10	10.93	10.92	10.76	10.56	10.54	10.54	10.85	10.75	10.55
Market Value Index (NL Market Value)	11.46	11.51	11.48	11.47	11.27	11.43	11.34	11.34	11.43	11.39	11.38
Size Index (NL Sales: MV)	11.23	11.30	11.20	11.19	11.01	10.99	10.94	10.94	11.14	11.07	10.97
Beta	1.62	1.63	1.63	1.61	1.61	1.63	1.63	1.63	1.62	1.61	1.63
TFP Adjusted Beta	1.41	1.42	1.42	1.41	1.41	1.42	1.42	1.42	1.42	1.41	1.42
Stock Price Volatility	4.78	4.41	2.96	2.85	3.46	3.61	3.61	3.61	3.46	3.31	3.61
<b>Valuation Measures</b>											
Total Economic Market Value (MV)	\$94,439.7	\$99,758.2	\$96,527.7	\$95,563.9	\$78,513.6	\$91,766.8	\$84,263.5	\$84,263.5	\$92,426.0	\$88,614.8	\$88,015.1
Economic Enterprise Value	\$92,855.6	\$95,923.0	\$91,606.5	\$89,366.1	\$72,717.2	\$85,127.6	\$78,167.2	\$78,167.2	\$86,948.1	\$82,403.6	\$81,647.4
Equity Market Value	\$58,583.8	\$58,697.9	\$57,920.6	\$55,482.5	\$39,574.6	\$54,259.7	\$49,823.1	\$49,823.1	\$53,187.0	\$49,772.2	\$52,041.4
Total Capital	\$52,488.0	\$62,163.4	\$62,566.1	\$61,735.4	\$57,788.0	\$49,169.1	\$45,148.8	\$45,148.8	\$58,684.4	\$56,230.8	\$47,158.9
Market Value Created MVC (MV - Capital)	\$41,951.8	\$37,594.9	\$33,961.6	\$33,828.5	\$20,725.6	\$42,597.7	\$39,114.7	\$39,114.7	\$33,741.6	\$32,383.9	\$40,856.2
MVC Margin (MVC / Sales)	69.76%	57.07%	61.02%	61.30%	44.09%	110.54%	103.16%	103.16%	64.33%	69.03%	106.88%
MVC Spread (MVC / Capital)	79.93%	60.48%	54.28%	54.80%	35.86%	86.64%	86.64%	86.64%	57.50%	57.59%	86.64%
Current EVC Value (EP / WACC)	\$47,018.5	\$52,128.5	\$9,413.0	\$12,252.6	(\$10,186.7)	(\$25,806.5)	(\$23,696.4)	(\$23,696.4)	\$7,469.7	(\$8,199.2)	(\$24,751.4)
Current Operations Value COV	\$92,188.3	\$107,144.7	\$69,820.2	\$71,970.4	\$46,923.0	\$25,577.1	\$21,786.0	\$21,786.0	\$64,196.5	\$47,871.2	\$23,681.5
Current Operations Value Per Share	\$142.93	\$164.18	\$108.21	\$116.61	\$78.96	\$43.77	\$35.21	\$35.21	\$103.76	\$79.97	\$39.37
Future Growth Value (MVC - EVA Value)	\$2,251.5	(\$7,386.5)	\$26,707.5	\$23,593.6	\$31,590.6	\$66,189.7	\$62,477.5	\$62,477.5	\$28,229.5	\$40,743.6	\$64,333.6
Future Growth Value Reliance (FGV / MV)	2.38%	-7.40%	27.67%	24.69%	40.24%	72.13%	74.15%	74.15%	30.54%	45.98%	73.09%
Share Price	\$90.60	\$89.61	\$90.81	\$91.53	\$67.96	\$92.74	\$92.74	\$92.74	\$86.53	\$84.08	\$92.74
Dividend Yield	1.99%	2.19%	2.47%	2.84%	4.33%	3.32%	3.32%	3.32%	0.00%	-6.70%	10.30%
Total Shareholder Return (TTM)	-1.28%	1.09%	3.81%	3.63%	-21.43%	39.78%	0.00%	0.00%	-6.70%	-2.83%	10.30%
MV to IC Ratio	1.80X	1.60X	1.54X	1.55X	1.36X	1.87X	1.87X	1.87X	1.57X	1.58X	1.87X
EV / EBITDAR Multiple	7.07X	6.29X	7.58X	7.57X	7.96X	10.83X	10.10X	10.10X	7.74X	8.58X	10.47X
EV / NOPBIT Multiple	11.79X	10.11X	14.04X	14.61X	20.47X	34.01X	24.61X	24.61X	15.43X	20.31X	28.75X
EV / NOPAT Multiple	15.85X	14.59X	18.91X	20.06X	27.66X	50.76X	34.52X	34.52X	21.54X	28.22X	41.43X
EV / EP Multiple	31.07X	29.99X	140.25X	117.83X	-127.39X	-50.31X	-50.31X	-50.31X	185.20X	-164.30X	-50.31X
Future Growth Value (% of MV)	2.38%	-7.40%	27.67%	24.69%	40.24%	72.13%	74.15%	74.15%	30.54%	45.98%	73.09%
Current Operations Value (% of MV)	97.62%	107.40%	72.33%	75.31%	59.76%	27.87%	25.85%	25.85%	69.46%	54.02%	26.91%
Market Value (COV + FGV %)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Basic Shares Outstanding	645.0	652.6	645.2	617.2	594.3	584.3	618.7	618.7	618.7	598.6	601.5

Source: Company Data, Financial statements and Tigress Research

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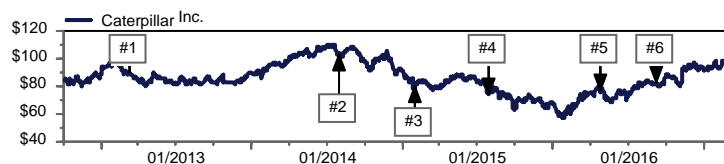
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**Caterpillar Inc. (CAT-US)  
 Ratings History**
**Machinery Equipment**

Caterpillar Inc. (CAT-US)				
Item #	Date	Research Action	Rating	Price
#6	09/08/2016	Reiterate Rating	<b>Underperform</b>	\$83.54
#5	04/26/2016	Reiterate Rating	<b>Underperform</b>	\$77.65
#4	07/27/2015	Downgrade Rating	<b>Underperform</b>	\$75.32
#3	01/29/2015	Reiterate Rating	<b>Neutral</b>	\$80.00
#2	07/30/2014	Upgrade Rating	<b>Neutral</b>	\$103.38
#1	03/11/2013	Initiation of Coverage	<b>Underperform</b>	\$91.18


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We employ proprietary quantitative valuation models combined with dynamic fundamental analysis based on the principles of Economic Profit to formulate timely and insightful investment ratings, analysis, strategies and recommendations.

We make key adjustments to reported financial data eliminating GAAP-based accounting distortions and measuring all companies on a cash operating basis.

Our proprietary research framework is a multi-factor model that scores and ranks companies based on their risk-adjusted ability to create Economic Profit relative to their current market value focusing on three key components:

**Business Performance:** Measuring economic profitability, growth and operating efficiency.

**Risk:** Measuring business sustainability, volatility, strength and consistency.

**Valuation:** Linking business performance to market value. Measuring value created relative to capital employed and enterprise multiples of economic profit and cash flow.

We score and rank 24 key measurements of performance, risk and value into relative market and industry investment recommendations.

For more information on our research methodology, please review the *Tigress Investment Research Guide to Company Valuation and Analysis*.

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<b>Excess Cash per Share:</b>	Excess Cash per Share is the amount of excess cash divided by basic shares outstanding. Excess Cash consists of all cash and short-term securities less operating cash needed to run the business. Operating Cash is 5% of TTM net sales revenue.
<b>EBITDAR:</b>	Earnings Before Interest, Taxes, Depreciation, Amortization, and Restructuring and Rent Costs. This is especially important when comparing companies that use a significant amount of leased assets like restaurants and retailers.
<b>NOPAT:</b>	Net Operating Profit after Tax. Represents a company's after-tax cash operating profit excluding financing costs.
<b>Total Invested Capital:</b>	Total Invested Capital the total cash investment that shareholders and debt holders have made during the life of company.
<b>Return on Capital:</b>	Return on Capital equals NOPAT divided by Total Invested Capital. It is a key measure of operating efficiency. ROC quantifies how well a company generates cash flow relative to the capital invested in its business.
<b>Cost of Capital:</b>	Is the proportionately weighted cost of each category of capital – common equity, preferred equity and debt.
<b>Economic Profit:</b>	Economic Profit is the net operating income after tax less the opportunity cost of the total capital invested. It is the most important driver of shareholder value.
<b>Current Operations Value:</b>	Current Operations Value is the portion of market value based on the discounted present value of the current earnings stream assuming it remains constant forever.
<b>Future Growth Value:</b>	Future Growth Value is the portion of market value based on un-earned Economic Profit

For more information on the key terms and measures, please review the *Tigress Investment Research Guide to Company Valuation and Analysis*.

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<b>Strong Buy:</b>	Expect significant price gains in the price of the stock relative to its industry peer group and general market over the next 12 months.
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<b>Sell:</b>	Expect price decline or significant relative market and industry underperformance over the next 12 months.

**Rating Distribution (03/10/2017)**

Companies Under Coverage		Relationship Companies Under Coverage*	
#	%	#	%
16	15%	0	0%
49	44%	4	80%
39	36%	1	20%
5	5%	0	0%
0	0%	0	0%
<b>Total</b>	<b>109</b>	<b>4</b>	<b>100%</b>

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## Company Report – Research Update

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Tigress Financial Partners provides its services to corporate entities, institutional investors, high-net worth individual investors, public and private pensions, federal, state and municipal governments.

Tigress Financial Partners LLC is a registered broker dealer and registered investment advisor with the Securities and Exchange Commission (SEC) and a member of the Financial Industry Regulatory Authority (FINRA), the Municipal Securities Rulemaking Board (MSRB) and a member of the Securities Investor Protection Corporation (SIPC).

Tigress Financial Partners LLC is a Woman-Owned Business Enterprise (WBE) and is nationally certified by WBENC, the Women's Business Enterprise National Council.

Tigress Financial Partners LLC is a wholly-owned subsidiary of Tigress Holdings LLC.

For further information please go to [www.tigressfinancialpartners.com](http://www.tigressfinancialpartners.com).

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**Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.**

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