

A Work Project, presented as part of the requirements for the Award of a Master Degree
in Management from the NOVA – School of Business and Economics.

EQUITY REPORT ON CATERPILLAR INC.

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MASTER'S STUDENT NUMBER 2949

NON-ESSENTIAL APPENDIX

A PROJECT CARRIED OUT ON THE MASTER
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NOVA SCHOOL OF BUSINESS AND ECONOMICS

NON-ESSENTIAL APPENDIX

Appendix A – Multiples Valuation Data.

Caterpillar Inc. and its peers' accountings. Common shares outstanding, book value and EBITDA as of the 30th September, 2016. Stock price as of the 23rd December 2016. Market Cap. was computed using the common shares outstanding and the stock price. Sales revenues and earnings were computed summing the 12-trailing months (last 12-months period, from the 3Q 2015 to the 3Q 2016).

CAT Competitors		Accountings						
		Common Shares Outstanding	Stock Price	Market Cap	Book Value	Sales Revenues	Earnings	EBITDA
CAT	Caterpillar Inc.	585.07	94.32	55,184	15,645	39,993	1,017	5,370
DE	Deere & Co	314.42	103.12	32,423	6,512	26,644	1,512	3,940
CMI	Cummins Inc.	167.58	138.24	23,166	6,844	17,770	1,223	2,320
PCAR	Paccar Inc.	350.54	65.34	22,904	6,976	17,320	575	2,500
TEX	Terex Corporation	105.90	32.35	3,426	1,878	6,160	52	377
AGCO	AGCO Corp.	80.27	57.76	4,636	2,900	7,280	156	564
GE	General Electric Company	8,850.00	31.88	282,138	81,951	123,160	10,266	16,540
ASTE	ASTECH Industries, Inc.	23.04	67.90	1,564	644	1,040	46	97
KMTUY	Komatsu Ltd	942.81	23.09	21,769	12,596	14,920	971	2,530

Appendix B – Sensitivity Analysis Tables.

These tables summarize the outputs in terms of Caterpillar Inc.’s value per share in the sensitivity analysis made to the APV base scenario.

First, the effects of shifts in the rate of return:

Variation	Rate of Return	Value per Share
1.00%	18.99%	69.19
0.50%	18.49%	73.85
Base Scenario	17.99%	78.91
-0.50%	17.49%	84.40
-1.00%	16.99%	90.39

Then the shifts made in both Sales and Cost of Goods Sold growth rates:

Variation	Growth Rate of Sales and CV											Value per Share
	g1	g2	g3	g4	g5	g6	g7	g8	g9	g10	Terminal g	
1.00%	-13.00%	4.00%	6.00%	6.00%	6.00%	6.00%	8.00%	8.00%	8.00%	9.00%	5.00%	88.40
0.50%	-13.50%	3.50%	5.50%	5.50%	5.50%	5.50%	7.50%	7.50%	7.50%	8.50%	5.00%	83.57
Base Scenario	-14.00%	3.00%	5.00%	5.00%	5.00%	5.00%	7.00%	7.00%	7.00%	8.00%	5.00%	78.91
-0.50%	-14.50%	2.50%	4.50%	4.50%	4.50%	4.50%	6.50%	6.50%	6.50%	7.50%	5.00%	74.40
-1.00%	-15.00%	2.00%	4.00%	4.00%	4.00%	4.00%	6.00%	6.00%	6.00%	7.00%	5.00%	70.05

Variation	Growth Rate of Cost of Goods Sold										
	g1	g2	g3	g4	g5	g6	g7	g8	g9	g10	
1.00%	-11.00%	1.50%	2.50%	2.50%	2.50%	2.50%	3.50%	3.50%	3.50%	4.00%	
0.50%	-11.50%	1.00%	2.00%	2.00%	2.00%	2.00%	3.00%	3.00%	3.00%	3.50%	
Base Scenario	-12.00%	0.50%	1.50%	1.50%	1.50%	1.50%	2.50%	2.50%	2.50%	3.00%	
-0.50%	-12.50%	0.00%	1.00%	1.00%	1.00%	1.00%	2.00%	2.00%	2.00%	2.50%	
-1.00%	-13.00%	-0.50%	0.50%	0.50%	0.50%	0.50%	1.50%	1.50%	1.50%	2.00%	

Appendix C – Ratios Data.

The following table was retrieved from Bloomberg’s “In depth fundamentals” and it was used to analyse Caterpillar Inc.’s ratios evolution.

Ratios	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>Last 5y</u>
	31/12/2011	31/12/2012	31/12/2013	31/12/2014	31/12/2015	Average
Profitability						
Return on Assets	6.78%	6.67%	4.36%	4.36%	2.58%	4.95%
Return on Capital	12.03%	11.44%	7.13%	7.08%	4.56%	8.45%
Return on Equity	41.57%	37.36%	19.76%	19.68%	13.32%	26.34%
ROIC	13.46%	12.36%	7.94%	7.77%	5.26%	9.36%
Margin Analysis						
Gross Margin	26.2%	27.4%	25.5%	26.8%	27.0%	26.6%
Net Income Margin	8.2%	8.6%	6.8%	6.7%	4.5%	7.0%
Asset Turnover						
Total Asset Turnover	0.83	0.77	0.64	0.65	0.58	0.69
Short Term Liquidity						
Current Ratio	1.33	1.43	1.40	1.39	1.31	1.37
Quick Ratio	0.72	0.81	0.84	0.86	0.84	0.81

Appendix D - Global Corporate Annual Default Rate by Rating Category (S&P study).

Year	Default Rate (Rating Category A)
1981	0.00
1982	0.21
1983	0.00
1984	0.00
1985	0.00
1986	0.18
1987	0.00
1988	0.00
1989	0.18
1990	0.00
1991	0.00
1992	0.00
1993	0.00
1994	0.14
1995	0.00
1996	0.00
1997	0.00
1998	0.00
1999	0.18
2000	0.27
2001	0.27
2002	0.00
2003	0.00
2004	0.08
2005	0.00
2006	0.00
2007	0.00
2008	0.39
2009	0.22
2010	0.00
2011	0.00
2012	0.00
2013	0.00
2014	0.00
Average	0.06

Appendix E – S&P 500 and CAT US Equity TOT_RETURN_INDEX_GROSS_DVDS and 10-Year Treasury Constant Maturity Rate July 1980 – July 2016.

Date	SPX Index			Caterpillar Inc.			10-Year Treasury Constant Maturity Rate
	TOT_RETURN_INDEX_GROSS_DVDS	return rate	Excess Return (Rm-Rf)	TOT_RETURN_INDEX_GROSS_DVDS	Return Rate	Excess Return (Rm-Rf)	Rf
Jul-80	971.60			7.38	-		10.25%
Aug-80	981.42	1%	1%	6.63	10.17%	-10%	11.10%
Sep-80	1,010.29	3%	3%	6.98	5.42%	5%	11.51%
Oct-80	1,030.75	2%	2%	7.22	3.31%	3%	11.75%
Nov-80	1,140.56	11%	11%	7.93	9.85%	10%	12.68%
Dec-80	1,106.14	-3%	-3%	7.33	-7.57%	-8%	12.84%
Jan-81	1,059.86	-4%	-4%	7.09	-3.27%	-3%	12.57%
Feb-81	1,078.27	2%	2%	8.20	15.76%	16%	13.19%
Mar-81	1,121.39	4%	4%	8.25	0.58%	1%	13.12%
Apr-81	1,099.71	-2%	-2%	9.25	12.15%	12%	13.68%
May-81	1,102.52	0%	0%	8.75	-5.39%	-5%	14.10%
Jun-81	1,095.62	-1%	-1%	8.45	-3.49%	-3%	13.47%
Jul-81	1,097.88	0%	0%	8.12	-3.85%	-4%	14.28%
Aug-81	1,034.48	-6%	-6%	7.56	-7.00%	-7%	14.94%
Sep-81	983.51	-5%	-5%	6.97	-7.74%	-8%	15.32%
Oct-81	1,036.59	5%	5%	6.61	-5.17%	-5%	15.15%
Nov-81	1,079.36	4%	4%	7.50	13.43%	13%	13.39%
Dec-81	1,051.68	-3%	-3%	7.30	-2.63%	-3%	13.72%
Jan-82	1,037.95	-1%	-1%	6.99	-4.19%	-4%	14.59%

Feb-82	979.94	-6%	-6%	6.28	10.24%	-10%	14.43%
Mar-82	974.82	-1%	-1%	6.44	2.65%	3%	13.86%
Apr-82	1,018.88	5%	5%	6.20	-3.77%	-4%	13.87%
					-		
May-82	984.14	-3%	-3%	4.97	19.89%	-20%	13.62%
Jun-82	969.36	-2%	-2%	5.02	1.02%	1%	14.30%
Jul-82	952.12	-2%	-2%	5.04	0.47%	0%	13.95%
Aug-82	1,067.70	12%	12%	5.54	9.90%	10%	13.06%
					-		
Sep-82	1,081.01	1%	1%	4.65	16.15%	-16%	12.34%
Oct-82	1,205.43	12%	12%	5.25	12.96%	13%	10.91%
Nov-82	1,254.12	4%	4%	5.46	3.97%	4%	10.55%
Dec-82	1,278.29	2%	2%	5.58	2.23%	2%	10.54%
Jan-83	1,325.82	4%	4%	6.00	7.48%	7%	10.46%
Feb-83	1,356.21	2%	2%	6.21	3.51%	4%	10.72%
Mar-83	1,406.31	4%	4%	5.98	-3.67%	-4%	10.51%
Apr-83	1,517.10	8%	8%	6.57	9.97%	10%	10.40%
May-83	1,503.90	-1%	-1%	6.61	0.54%	1%	10.38%
Jun-83	1,562.43	4%	4%	6.68	1.07%	1%	10.85%
Jul-83	1,516.33	-3%	-3%	6.27	-6.08%	-6%	11.38%
					-		
Aug-83	1,539.09	2%	2%	5.60	10.79%	-11%	11.85%
Sep-83	1,560.35	1%	1%	6.22	11.15%	11%	11.65%
Oct-83	1,542.31	-1%	-1%	5.63	-9.46%	-9%	11.54%
Nov-83	1,574.84	2%	2%	6.44	14.38%	14%	11.69%
Dec-83	1,566.61	-1%	-1%	6.80	5.59%	6%	11.83%
Jan-84	1,557.87	-1%	-1%	7.02	3.17%	3%	11.67%
Feb-84	1,503.05	-4%	-4%	6.58	-6.20%	-6%	11.84%
Mar-84	1,529.08	2%	2%	7.44	12.95%	13%	12.32%

Apr-84	1,543.59	1%	1%	6.87	-7.56%	-8%	12.63%
May-84	1,458.14	-6%	-6%	5.96	13.30%	-13%	13.41%
Jun-84	1,489.81	2%	2%	5.48	-7.97%	-8%	13.56%
Jul-84	1,471.33	-1%	-1%	5.08	-7.33%	-7%	13.36%
Aug-84	1,633.83	11%	11%	5.75	13.09%	13%	12.72%
Sep-84	1,634.22	0%	0%	5.17	-9.97%	-10%	12.52%
Oct-84	1,640.52	0%	0%	4.60	11.07%	-11%	12.16%
Nov-84	1,622.15	-1%	-1%	4.58	-0.40%	0%	11.57%
Dec-84	1,664.89	3%	3%	4.60	0.40%	0%	11.50%
Jan-85	1,794.61	8%	8%	4.97	8.07%	8%	11.38%
Feb-85	1,816.58	1%	1%	4.90	-1.50%	-1%	11.51%
Mar-85	1,817.79	0%	0%	4.79	-2.28%	-2%	11.86%
Apr-85	1,816.08	0%	0%	4.73	-1.17%	-1%	11.43%
May-85	1,921.00	6%	6%	5.18	9.49%	9%	10.85%
Jun-85	1,951.10	2%	2%	4.95	-4.33%	-4%	10.16%
Jul-85	1,948.26	0%	0%	5.53	11.70%	12%	10.31%
Aug-85	1,931.52	-1%	-1%	5.40	-2.37%	-2%	10.33%
Sep-85	1,871.11	-3%	-3%	5.31	-1.74%	-2%	10.37%
Oct-85	1,957.53	5%	5%	5.35	0.71%	1%	10.24%
Nov-85	2,091.80	7%	7%	6.01	12.32%	12%	9.78%
Dec-85	2,192.99	5%	5%	6.33	5.33%	5%	9.26%
Jan-86	2,205.24	1%	1%	6.91	9.23%	9%	9.19%
Feb-86	2,370.07	7%	7%	7.66	10.93%	11%	8.70%
Mar-86	2,502.30	6%	6%	7.95	3.69%	4%	7.78%
Apr-86	2,474.13	-1%	-1%	8.02	0.95%	1%	7.30%
May-86	2,605.75	5%	5%	8.21	2.36%	2%	7.71%
Jun-86	2,649.79	2%	2%	7.53	-8.29%	-8%	7.80%

Jul-86	2,501.58	-6%	-6%	6.77	10.05%	-10%	7.30%
Aug-86	2,687.09	7%	7%	7.57	11.76%	12%	7.17%
Sep-86	2,464.95	-8%	-8%	5.75	24.06%	-24%	7.45%
Oct-86	2,607.10	6%	6%	6.07	5.61%	6%	7.43%
Nov-86	2,670.46	2%	2%	6.03	-0.63%	-1%	7.25%
Dec-86	2,602.31	-3%	-3%	6.11	1.26%	1%	7.11%
Jan-87	2,952.73	13%	13%	6.64	8.72%	9%	7.08%
Feb-87	3,069.41	4%	4%	7.01	5.46%	5%	7.25%
Mar-87	3,157.97	3%	3%	7.37	5.18%	5%	7.25%
Apr-87	3,129.93	-1%	-1%	7.37	0.00%	0%	8.02%
May-87	3,157.07	1%	1%	7.94	7.79%	8%	8.61%
Jun-87	3,316.50	5%	5%	8.19	3.13%	3%	8.40%
Jul-87	3,484.50	5%	5%	9.95	21.50%	21%	8.45%
Aug-87	3,614.52	4%	4%	9.49	-4.62%	-5%	8.76%
Sep-87	3,535.28	-2%	-2%	11.28	18.79%	19%	9.42%
Oct-87	2,773.91	-22%	-22%	7.65	32.14%	-32%	9.52%
Nov-87	2,545.32	-8%	-8%	8.73	14.07%	14%	8.86%
Dec-87	2,738.95	8%	8%	9.54	9.25%	9%	8.99%
Jan-88	2,854.07	4%	4%	8.99	-5.75%	-6%	8.67%
Feb-88	2,986.51	5%	5%	10.03	11.59%	12%	8.21%
Mar-88	2,894.39	-3%	-3%	9.62	-4.04%	-4%	8.37%
Apr-88	2,926.40	1%	1%	9.71	0.90%	1%	8.72%
May-88	2,951.36	1%	1%	9.59	-1.20%	-1%	9.09%
Jun-88	3,086.70	5%	5%	10.48	9.27%	9%	8.92%
Jul-88	3,074.94	0%	0%	9.66	-7.84%	-8%	9.06%
Aug-88	2,970.70	-3%	-3%	8.63	10.64%	-11%	9.26%

Sep-88	3,097.13	4%	4%	8.92	3.37%	3%	8.98%
Oct-88	3,183.30	3%	3%	9.61	7.72%	8%	8.80%
Nov-88	3,137.83	-1%	-1%	9.87	2.63%	3%	8.96%
Dec-88	3,192.53	2%	2%	9.91	0.39%	0%	9.11%
Jan-89	3,425.66	7%	7%	9.68	-2.28%	-2%	9.09%
Feb-89	3,340.51	-2%	-2%	9.19	-5.05%	-5%	9.17%
Mar-89	3,418.35	2%	2%	8.94	-2.77%	-3%	9.36%
Apr-89	3,595.65	5%	5%	9.49	6.21%	6%	9.18%
May-89	3,740.58	4%	4%	10.04	5.80%	6%	8.86%
Jun-89	3,719.53	-1%	-1%	9.12	-9.20%	-9%	8.28%
Jul-89	4,055.07	9%	9%	9.38	2.89%	3%	8.02%
Aug-89	4,134.08	2%	2%	10.15	8.21%	8%	8.11%
Sep-89	4,117.24	0%	0%	9.64	-5.06%	-5%	8.19%
Oct-89	4,021.76	-2%	-2%	9.09	-5.66%	-6%	8.01%
Nov-89	4,103.45	2%	2%	9.31	2.40%	2%	7.87%
Dec-89	4,201.85	2%	2%	9.19	-1.28%	-1%	7.84%
Jan-90	3,919.92	-7%	-7%	8.84	-3.80%	-4%	8.21%
Feb-90	3,970.11	1%	1%	9.68	9.48%	9%	8.48%
Mar-90	4,075.05	3%	3%	9.76	0.83%	1%	8.59%
Apr-90	3,972.98	-3%	-3%	9.85	0.90%	1%	8.79%
May-90	4,359.21	10%	10%	10.73	8.96%	9%	8.74%
					-		
Jun-90	4,329.71	-1%	-1%	8.45	21.31%	-21%	8.48%
Jul-90	4,315.46	0%	0%	7.89	-6.56%	-7%	8.47%
					-		
Aug-90	3,925.55	-9%	-9%	6.94	12.02%	-12%	8.77%
Sep-90	3,734.55	-5%	-5%	6.82	-1.74%	-2%	8.89%
Oct-90	3,718.37	0%	0%	6.63	-2.84%	-3%	8.72%
Nov-90	3,958.00	6%	6%	6.69	0.92%	1%	8.38%
Dec-90	4,067.94	3%	3%	7.64	14.29%	14%	8.08%

Jan-91	4,244.29	4%	4%	8.14	6.49%	6%	8.09%
Feb-91	4,547.09	7%	7%	8.94	9.80%	10%	7.85%
Mar-91	4,657.20	2%	2%	7.83	12.36%	-12%	8.11%
Apr-91	4,667.84	0%	0%	7.84	0.10%	0%	8.04%
May-91	4,868.50	4%	4%	8.52	8.66%	9%	8.07%
Jun-91	4,645.58	-5%	-5%	8.13	-4.59%	-5%	8.28%
Jul-91	4,861.66	5%	5%	8.14	0.10%	0%	8.27%
Aug-91	4,975.93	2%	2%	7.87	-3.31%	-3%	7.89%
Sep-91	4,892.63	-2%	-2%	7.39	-6.05%	-6%	7.65%
Oct-91	4,958.21	1%	1%	8.00	8.23%	8%	7.53%
Nov-91	4,758.74	-4%	-4%	6.88	14.06%	-14%	7.41%
Dec-91	5,301.84	11%	11%	7.31	6.36%	6%	7.09%
Jan-92	5,203.17	-2%	-2%	7.82	6.89%	7%	7.03%
Feb-92	5,270.47	1%	1%	8.17	4.55%	5%	7.34%
Mar-92	5,168.05	-2%	-2%	8.36	2.30%	2%	7.54%
Apr-92	5,319.60	3%	3%	9.41	12.55%	13%	7.48%
May-92	5,346.00	0%	0%	10.12	7.57%	8%	7.38%
Jun-92	5,266.51	-1%	-1%	9.01	10.97%	-11%	7.26%
Jul-92	5,481.48	4%	4%	9.29	3.07%	3%	6.83%
Aug-92	5,369.46	-2%	-2%	8.11	12.67%	-13%	6.59%
Sep-92	5,432.60	1%	1%	8.76	8.03%	8%	6.41%
Oct-92	5,451.22	0%	0%	8.81	0.53%	1%	6.61%
Nov-92	5,636.29	3%	3%	9.57	8.61%	9%	6.87%
Dec-92	5,705.34	1%	1%	9.04	-5.51%	-6%	6.76%
Jan-93	5,752.99	1%	1%	9.49	4.94%	5%	6.60%
Feb-93	5,831.33	1%	1%	9.81	3.34%	3%	6.25%

Mar-93	5,954.36	2%	2%	10.00	1.94%	2%	5.98%
Apr-93	5,810.43	-2%	-2%	11.73	17.38%	17%	5.97%
May-93	5,965.33	3%	3%	12.14	3.43%	3%	6.04%
Jun-93	5,982.63	0%	0%	12.69	4.54%	5%	5.96%
Jul-93	5,958.57	0%	0%	13.05	2.87%	3%	5.81%
Aug-93	6,184.05	4%	4%	13.96	6.99%	7%	5.68%
Sep-93	6,136.38	-1%	-1%	13.41	-3.95%	-4%	5.36%
Oct-93	6,263.24	2%	2%	15.56	16.01%	16%	5.33%
Nov-93	6,203.52	-1%	-1%	14.50	-6.83%	-7%	5.73%
Dec-93	6,278.37	1%	1%	15.13	4.40%	4%	5.77%
Jan-94	6,491.66	3%	3%	17.73	17.16%	17%	5.75%
Feb-94	6,315.61	-3%	-3%	18.46	4.08%	4%	5.98%
Mar-94	6,040.89	-4%	-4%	19.14	3.69%	4%	6.49%
Apr-94	6,118.28	1%	1%	18.74	-2.09%	-2%	6.97%
May-94	6,218.20	2%	2%	18.23	-2.73%	-3%	7.18%
Jun-94	6,066.16	-2%	-2%	17.05	-6.43%	-6%	7.10%
Jul-94	6,264.90	3%	3%	18.53	8.67%	9%	7.30%
Aug-94	6,521.16	4%	4%	19.73	6.46%	6%	7.24%
Sep-94	6,361.67	-2%	-2%	18.51	-6.18%	-6%	7.47%
Oct-94	6,504.29	2%	2%	20.49	10.67%	11%	7.74%
Nov-94	6,267.74	-4%	-4%	18.56	-9.41%	-9%	7.96%
Dec-94	6,360.21	1%	1%	18.90	1.85%	2%	7.81%
Jan-95	6,524.80	3%	3%	17.70	-6.35%	-6%	7.78%
Feb-95	6,778.84	4%	4%	17.79	0.49%	0%	7.46%
Mar-95	6,978.51	3%	3%	19.12	7.51%	8%	7.20%
Apr-95	7,183.62	3%	3%	20.24	5.86%	6%	7.06%
May-95	7,470.02	4%	4%	20.85	2.99%	3%	6.61%
Jun-95	7,643.34	2%	2%	22.23	6.64%	7%	6.17%
Jul-95	7,896.45	3%	3%	24.47	10.08%	10%	6.28%
Aug-95	7,915.92	0%	0%	23.34	-4.62%	-5%	6.49%

Sep-95	8,249.82	4%	4%	19.78	15.27%	-15%	6.20%
Oct-95	8,220.03	0%	0%	19.86	0.40%	0%	6.04%
Nov-95	8,580.27	4%	4%	21.47	8.15%	8%	5.93%
Dec-95	8,745.19	2%	2%	20.56	-4.28%	-4%	5.71%
Jan-96	9,041.59	3%	3%	22.65	10.17%	10%	5.65%
Feb-96	9,125.60	1%	1%	23.48	3.69%	4%	5.81%
Mar-96	9,213.45	1%	1%	23.92	1.87%	2%	6.28%
Apr-96	9,348.44	1%	1%	22.68	-5.18%	-5%	6.52%
May-96	9,588.48	3%	3%	23.21	2.34%	2%	6.74%
Jun-96	9,624.88	0%	0%	23.96	3.24%	3%	6.91%
Jul-96	9,199.23	-4%	-4%	23.44	-2.18%	-2%	6.87%
Aug-96	9,393.60	2%	2%	24.51	4.55%	5%	6.64%
Sep-96	9,921.85	6%	6%	26.82	9.44%	9%	6.83%
Oct-96	10,194.82	3%	3%	24.56	-8.42%	-8%	6.53%
Nov-96	10,964.68	8%	8%	28.32	15.30%	15%	6.19%
Dec-96	10,747.27	-2%	-2%	26.93	-4.90%	-5%	6.30%
Jan-97	11,417.69	6%	6%	27.93	3.69%	4%	6.58%
Feb-97	11,507.33	1%	1%	28.15	0.81%	1%	6.42%
Mar-97	11,035.43	-4%	-4%	28.87	2.56%	3%	6.69%
Apr-97	11,692.88	6%	6%	32.16	11.40%	11%	6.88%
May-97	12,404.20	6%	6%	35.28	9.69%	10%	6.71%
Jun-97	12,959.62	4%	4%	38.80	9.99%	10%	6.49%
Jul-97	13,989.14	8%	8%	40.66	4.77%	5%	6.21%
Aug-97	13,205.61	-6%	-6%	42.15	3.68%	4%	6.30%
Sep-97	13,928.41	5%	5%	39.16	-7.10%	-7%	6.21%
Oct-97	13,463.17	-3%	-3%	37.39	-4.52%	-5%	6.03%
Nov-97	14,085.98	5%	5%	34.97	-6.46%	-6%	5.88%
Dec-97	14,327.41	2%	2%	35.38	1.17%	1%	5.81%
Jan-98	14,485.07	1%	1%	35.20	-0.52%	-1%	5.54%

Feb-98	15,529.17	7%	7%	40.01	13.67%	14%	5.57%
Mar-98	16,323.64	5%	5%	40.38	0.92%	1%	5.65%
Apr-98	16,486.90	1%	1%	41.94	3.86%	4%	5.64%
May-98	16,203.39	-2%	-2%	40.46	-3.51%	-4%	5.65%
Jun-98	16,860.94	4%	4%	38.97	-3.70%	-4%	5.49%
Jul-98	16,681.17	-1%	-1%	35.94	-7.76%	-8%	5.46%
					-		
Aug-98	14,271.81	-14%	-14%	31.13	13.40%	-13%	5.34%
Sep-98	15,186.17	6%	6%	32.98	5.95%	5%	4.80%
Oct-98	16,420.17	8%	8%	33.53	1.66%	1%	4.54%
Nov-98	17,414.92	6%	6%	36.88	10.01%	10%	4.83%
Dec-98	18,417.43	6%	5%	34.32	-6.95%	-7%	4.64%
Jan-99	19,187.29	4%	4%	32.54	-5.19%	-6%	4.72%
Feb-99	18,590.89	-3%	-3%	34.23	5.20%	5%	5.01%
Mar-99	19,334.47	4%	4%	34.51	0.82%	0%	5.23%
Apr-99	20,083.04	4%	4%	48.58	40.79%	40%	5.18%
					-		
May-99	19,609.38	-2%	-3%	41.42	14.76%	-15%	5.54%
Jun-99	20,696.77	6%	5%	45.28	9.34%	9%	5.91%
Jul-99	20,050.95	-3%	-4%	44.49	-1.75%	-2%	5.79%
Aug-99	19,951.91	0%	-1%	42.97	-3.41%	-4%	5.94%
Sep-99	19,405.58	-3%	-3%	41.60	-3.20%	-4%	5.91%
Oct-99	20,632.92	6%	6%	42.22	1.51%	1%	6.12%
					-		
Nov-99	21,052.21	2%	2%	35.40	16.16%	-17%	6.03%
Dec-99	22,291.09	6%	5%	35.93	1.48%	1%	6.28%
Jan-00	21,171.27	-5%	-5%	32.64	-9.14%	-10%	6.66%
					-		
Feb-00	20,770.74	-2%	-2%	26.97	17.38%	-18%	6.51%
Mar-00	22,801.44	10%	9%	30.34	12.48%	12%	6.25%

Apr-00	22,115.55	-3%	-3%	30.59	0.82%	0%	5.99%
May-00	21,661.44	-2%	-3%	29.66	-3.01%	-4%	6.45%
					-		
Jun-00	22,195.55	2%	2%	26.27	11.44%	-12%	6.09%
Jul-00	21,850.24	-2%	-2%	26.68	1.56%	1%	6.05%
Aug-00	23,206.70	6%	6%	28.80	7.95%	7%	5.82%
					-		
Sep-00	21,981.79	-5%	-6%	24.28	15.69%	-16%	5.81%
Oct-00	21,888.45	0%	-1%	27.73	14.20%	14%	5.74%
Nov-00	20,164.13	-8%	-8%	31.09	12.12%	12%	5.72%
Dec-00	20,262.91	0%	0%	37.42	20.35%	20%	5.23%
Jan-01	20,981.38	4%	3%	35.24	-5.82%	-6%	5.16%
Feb-01	19,069.32	-9%	-9%	33.15	-5.93%	-6%	5.10%
Mar-01	17,861.95	-6%	-7%	35.37	6.68%	6%	4.89%
Apr-01	19,248.76	8%	7%	40.28	13.88%	13%	5.14%
May-01	19,377.87	1%	0%	43.46	7.89%	8%	5.40%
Jun-01	18,906.29	-2%	-3%	40.16	-7.59%	-8%	5.28%
Jul-01	18,719.91	-1%	-1%	44.49	10.79%	10%	5.24%
Aug-01	17,549.24	-6%	-7%	40.37	-9.26%	-10%	4.97%
					-		
Sep-01	16,132.22	-8%	-8%	36.17	10.40%	-11%	4.73%
Oct-01	16,439.78	2%	2%	36.39	0.60%	0%	4.57%
Nov-01	17,700.65	8%	7%	38.59	6.04%	6%	4.67%
Dec-01	17,855.84	1%	1%	42.52	10.19%	10%	5.09%
Jan-02	17,595.44	-1%	-2%	41.20	-3.10%	-3%	5.04%
Feb-02	17,255.79	-2%	-2%	45.49	10.40%	10%	4.91%
Mar-02	17,904.73	4%	4%	46.59	2.41%	2%	5.30%
Apr-02	16,819.54	-6%	-6%	45.04	-3.31%	-3%	5.20%
May-02	16,695.97	-1%	-1%	43.11	-4.30%	-4%	5.17%
Jun-02	15,508.61	-7%	-7%	40.37	-6.35%	-6%	4.93%

Jul-02	14,300.11	-8%	-8%	37.15	-7.97%	-8%	4.64%
Aug-02	14,393.56	1%	1%	36.27	-2.37%	-3%	4.25%
Sep-02	12,830.70	-11%	-11%	30.94	14.71%	-15%	3.87%
Oct-02	13,958.90	9%	9%	34.24	10.69%	11%	3.95%
Nov-02	14,779.73	6%	6%	41.83	22.15%	22%	4.05%
Dec-02	13,911.69	-6%	-6%	38.33	-8.38%	-8%	4.03%
Jan-03	13,547.97	-3%	-3%	37.16	-3.04%	-3%	4.05%
Feb-03	13,344.40	-2%	-2%	39.71	6.87%	7%	3.90%
Mar-03	13,473.46	1%	1%	41.57	4.68%	5%	3.81%
Apr-03	14,582.41	8%	8%	44.74	7.62%	8%	3.96%
May-03	15,349.92	5%	5%	44.36	-0.86%	-1%	3.55%
Jun-03	15,546.01	1%	1%	47.34	6.73%	7%	3.33%
Jul-03	15,819.63	2%	2%	57.69	21.85%	22%	3.99%
Aug-03	16,127.49	2%	2%	61.41	6.46%	6%	4.45%
Sep-03	15,956.51	-1%	-1%	58.86	-4.16%	-4%	4.27%
Oct-03	16,858.27	6%	6%	62.97	6.99%	7%	4.31%
Nov-03	17,006.17	1%	1%	65.35	3.78%	4%	4.30%
Dec-03	17,897.03	5%	5%	71.34	9.17%	9%	4.26%
Jan-04	18,225.49	2%	2%	67.45	-5.44%	-6%	4.15%
Feb-04	18,478.72	1%	1%	65.40	-3.05%	-3%	4.08%
Mar-04	18,199.94	-2%	-2%	68.27	4.38%	4%	3.82%
Apr-04	17,914.66	-2%	-2%	67.43	-1.23%	-1%	4.37%
May-04	18,159.83	1%	1%	65.36	-3.06%	-3%	4.72%
Jun-04	18,512.73	2%	2%	68.91	5.43%	5%	4.73%
Jul-04	17,900.13	-3%	-3%	64.11	-6.97%	-7%	4.49%
Aug-04	17,971.79	0%	0%	63.42	-1.07%	-1%	4.28%
Sep-04	18,166.41	1%	1%	70.18	10.66%	11%	4.13%
Oct-04	18,443.89	2%	1%	70.61	0.62%	1%	4.09%
Nov-04	19,190.01	4%	4%	80.27	13.67%	14%	4.20%

Dec-04	19,842.07	3%	3%	85.49	6.51%	6%	4.22%
Jan-05	19,358.45	-2%	-3%	78.48	-8.20%	-8%	4.22%
Feb-05	19,765.64	2%	2%	83.72	6.68%	7%	4.17%
Mar-05	19,416.01	-2%	-2%	80.54	-3.80%	-4%	4.50%
Apr-05	19,047.90	-2%	-2%	77.91	-3.26%	-3%	4.34%
May-05	19,653.47	3%	3%	83.28	6.88%	7%	4.14%
Jun-05	19,681.59	0%	0%	84.34	1.28%	1%	4.00%
Jul-05	20,413.25	4%	3%	95.85	13.65%	13%	4.18%
Aug-05	20,227.16	-1%	-1%	98.66	2.93%	3%	4.26%
Sep-05	20,390.92	1%	1%	104.46	5.87%	6%	4.21%
					-		
Oct-05	20,050.72	-2%	-2%	93.95	10.06%	-10%	4.46%
Nov-05	20,808.38	4%	3%	103.22	9.87%	10%	4.53%
Dec-05	20,814.98	0%	0%	103.20	-0.02%	0%	4.46%
Jan-06	21,366.13	3%	2%	121.75	17.97%	18%	4.42%
Feb-06	21,423.87	0%	0%	131.03	7.63%	7%	4.57%
Mar-06	21,690.07	1%	1%	128.76	-1.74%	-2%	4.73%
Apr-06	21,981.20	1%	1%	136.25	5.82%	5%	4.99%
May-06	21,349.31	-3%	-3%	131.23	-3.68%	-4%	5.11%
Jun-06	21,377.18	0%	0%	133.98	2.10%	2%	5.11%
Jul-06	21,508.88	1%	0%	128.03	-4.44%	-5%	5.09%
Aug-06	22,019.83	2%	2%	119.86	-6.38%	-7%	4.87%
Sep-06	22,586.35	3%	2%	118.87	-0.83%	-1%	4.72%
Oct-06	23,322.01	3%	3%	110.22	-7.28%	-8%	4.73%
Nov-06	23,764.93	2%	1%	112.61	2.17%	2%	4.60%
Dec-06	24,096.12	1%	1%	111.34	-1.13%	-2%	4.57%
Jan-07	24,460.21	2%	1%	116.86	4.96%	5%	4.76%
Feb-07	23,983.20	-2%	-2%	117.52	0.56%	0%	4.72%
Mar-07	24,250.65	1%	1%	122.26	4.04%	4%	4.56%
Apr-07	25,324.41	4%	4%	133.00	8.79%	8%	4.69%

May-07	26,207.10	3%	3%	143.92	8.21%	8%	4.75%
Jun-07	25,771.66	-2%	-2%	143.41	-0.36%	-1%	5.11%
Jul-07	24,973.68	-3%	-3%	144.98	1.10%	1%	5.00%
Aug-07	25,347.38	1%	1%	139.41	-3.85%	-4%	4.67%
Sep-07	26,294.05	4%	3%	144.30	3.51%	3%	4.52%
Oct-07	26,712.25	2%	1%	137.94	-4.41%	-5%	4.53%
Nov-07	25,615.17	-4%	-4%	132.93	-3.63%	-4%	4.14%
Dec-07	25,436.66	-1%	-1%	134.15	0.92%	1%	4.10%
Jan-08	23,911.16	-6%	-6%	131.91	-1.67%	-2%	3.74%
Feb-08	23,135.11	-3%	-3%	134.40	1.89%	2%	3.74%
Mar-08	23,034.89	0%	-1%	145.47	8.24%	8%	3.51%
Apr-08	24,156.37	5%	5%	152.81	5.05%	5%	3.68%
May-08	24,469.22	1%	1%	154.23	0.93%	1%	3.88%
					-		
Jun-08	22,408.27	-8%	-9%	137.77	10.67%	-11%	4.10%
Jul-08	22,219.81	-1%	-1%	130.53	-5.26%	-5%	4.01%
Aug-08	22,541.36	1%	1%	132.80	1.74%	2%	3.88%
					-		
Sep-08	20,534.95	-9%	-9%	111.90	15.74%	-16%	3.69%
					-		
Oct-08	17,086.58	-17%	-17%	72.51	35.20%	-35%	3.82%
Nov-08	15,860.03	-7%	-7%	77.81	7.30%	7%	3.53%
Dec-08	16,027.19	1%	1%	84.79	8.98%	9%	2.40%
					-		
Jan-09	14,677.86	-8%	-8%	59.36	30.00%	-30%	2.52%
					-		
Feb-09	13,120.04	-11%	-11%	47.35	20.23%	-20%	2.87%
Mar-09	14,267.10	9%	9%	53.80	13.61%	14%	2.82%
Apr-09	15,631.15	10%	10%	69.27	28.76%	29%	2.94%
May-09	16,503.99	6%	6%	69.03	-0.34%	0%	3.30%
Jun-09	16,537.02	0%	0%	64.32	-6.82%	-7%	3.72%

Jul-09	17,785.80	8%	8%	86.59	34.62%	35%	3.56%
Aug-09	18,426.84	4%	4%	89.05	2.84%	3%	3.59%
Sep-09	19,113.84	4%	4%	100.88	13.29%	13%	3.40%
Oct-09	18,759.06	-2%	-2%	109.04	8.08%	8%	3.40%
Nov-09	19,883.21	6%	6%	115.63	6.05%	6%	3.40%
Dec-09	20,267.15	2%	2%	112.86	-2.40%	-2%	3.60%
Jan-10	19,539.13	-4%	-4%	104.28	-7.60%	-8%	3.73%
Feb-10	20,143.25	3%	3%	113.89	9.21%	9%	3.69%
Mar-10	21,358.28	6%	6%	125.46	10.17%	10%	3.73%
Apr-10	21,695.34	2%	2%	136.76	9.01%	9%	3.85%
May-10	19,964.68	-8%	-8%	122.04	10.77%	-11%	3.42%
Jun-10	18,920.97	-5%	-5%	120.65	-1.14%	-1%	3.20%
Jul-10	20,245.84	7%	7%	140.98	16.85%	17%	3.01%
Aug-10	19,333.47	-5%	-5%	131.70	-6.58%	-7%	2.70%
Sep-10	21,058.23	9%	9%	159.03	20.75%	21%	2.65%
Oct-10	21,859.07	4%	4%	159.76	0.46%	0%	2.54%
Nov-10	21,862.57	0%	0%	171.95	7.63%	8%	2.77%
Dec-10	23,323.19	7%	7%	190.37	10.71%	11%	3.31%
Jan-11	23,875.86	2%	2%	198.07	4.05%	4%	3.39%
Feb-11	24,693.38	3%	3%	210.16	6.10%	6%	3.58%
Mar-11	24,702.77	0%	0%	227.35	8.18%	8%	3.41%
Apr-11	25,433.68	3%	3%	236.54	4.04%	4%	3.45%
May-11	25,145.23	-1%	-1%	216.84	-8.33%	-8%	3.17%
Jun-11	24,725.03	-2%	-2%	218.19	0.62%	1%	3.00%
Jul-11	24,222.99	-2%	-2%	203.42	-6.77%	-7%	2.99%
Aug-11	22,905.26	-5%	-5%	187.38	-7.89%	-8%	2.28%
Sep-11	21,296.35	-7%	-7%	152.04	18.86%	-19%	1.97%
Oct-11	23,621.67	11%	11%	195.45	28.55%	29%	2.15%

Nov-11	23,568.54	0%	0%	202.52	3.62%	4%	2.01%
Dec-11	23,808.64	1%	1%	187.46	-7.44%	-7%	1.97%
Jan-12	24,875.17	4%	4%	226.73	20.95%	21%	1.97%
Feb-12	25,950.14	4%	4%	237.31	4.66%	5%	1.97%
Mar-12	26,801.88	3%	3%	221.33	-6.73%	-7%	2.18%
Apr-12	26,633.48	-1%	-1%	214.49	-3.09%	-3%	2.05%
May-12	25,034.29	-6%	-6%	182.87	14.74%	-15%	1.80%
Jun-12	26,064.50	4%	4%	177.22	-3.09%	-3%	1.63%
Jul-12	26,426.13	1%	1%	176.84	-0.21%	0%	1.53%
Aug-12	27,021.33	2%	2%	179.19	1.33%	1%	1.68%
Sep-12	27,719.44	3%	3%	180.69	0.83%	1%	1.72%
Oct-12	27,208.47	-2%	-2%	179.19	-0.83%	-1%	1.75%
Nov-12	27,364.69	1%	1%	180.10	0.51%	0%	1.65%
Dec-12	27,612.75	1%	1%	190.43	5.73%	6%	1.72%
Jan-13	29,042.30	5%	5%	209.09	9.80%	10%	1.91%
Feb-13	29,436.24	1%	1%	196.30	-6.12%	-6%	1.98%
Mar-13	30,539.74	4%	4%	184.82	-5.85%	-6%	1.96%
Apr-13	31,127.41	2%	2%	181.04	-2.05%	-2%	1.75%
May-13	31,855.51	2%	2%	183.46	1.33%	1%	1.94%
Jun-13	31,428.03	-1%	-1%	176.38	-3.86%	-4%	2.30%
Jul-13	33,026.38	5%	5%	178.56	1.24%	1%	2.59%
Aug-13	32,071.45	-3%	-3%	177.77	-0.45%	0%	2.74%
Sep-13	33,077.27	3%	3%	179.62	1.04%	1%	2.81%
Oct-13	34,596.11	5%	5%	180.82	0.67%	1%	2.61%
Nov-13	35,648.98	3%	3%	183.51	1.49%	1%	2.72%
Dec-13	36,547.63	3%	3%	196.98	7.34%	7%	2.90%
Jan-14	35,284.88	-3%	-3%	205.01	4.07%	4%	2.86%
Feb-14	36,896.06	5%	5%	211.69	3.26%	3%	2.71%
Mar-14	37,206.04	1%	1%	216.93	2.47%	2%	2.72%

Apr-14	37,480.50	1%	1%	231.40	6.67%	7%	2.70%
May-14	38,358.16	2%	2%	224.44	-3.01%	-3%	2.56%
Jun-14	39,149.99	2%	2%	238.58	6.30%	6%	2.60%
Jul-14	38,610.98	-1%	-1%	222.73	-6.64%	-7%	2.54%
Aug-14	40,153.22	4%	4%	241.12	8.26%	8%	2.42%
Sep-14	39,590.88	-1%	-1%	218.93	-9.21%	-9%	2.53%
Oct-14	40,555.90	2%	2%	225.74	3.11%	3%	2.30%
Nov-14	41,644.93	3%	3%	223.93	-0.80%	-1%	2.33%
Dec-14	41,537.77	0%	0%	203.74	-9.02%	-9%	2.21%
					-		
Jan-15	40,291.55	-3%	-3%	179.57	11.86%	-12%	1.88%
Feb-15	42,605.71	6%	6%	186.15	3.66%	4%	1.98%
Mar-15	41,932.18	-2%	-2%	179.70	-3.46%	-3%	2.04%
Apr-15	42,334.38	1%	1%	196.66	9.43%	9%	1.94%
May-15	42,878.74	1%	1%	193.13	-1.80%	-2%	2.20%
Jun-15	42,049.92	-2%	-2%	192.00	-0.59%	-1%	2.37%
Jul-15	42,930.58	2%	2%	179.73	-6.39%	-6%	2.32%
Aug-15	40,344.35	-6%	-6%	174.72	-2.79%	-3%	2.17%
					-		
Sep-15	39,346.93	-2%	-2%	149.40	14.50%	-14%	2.17%
Oct-15	42,664.15	8%	8%	168.60	12.85%	13%	2.07%
Nov-15	42,790.99	0%	0%	167.81	-0.47%	0%	2.26%
Dec-15	42,112.57	-2%	-2%	156.98	-6.46%	-6%	2.24%
Jan-16	40,022.75	-5%	-5%	145.54	-7.28%	-7%	2.09%
Feb-16	39,966.58	0%	0%	158.31	8.77%	9%	1.78%
Mar-16	42,676.08	7%	7%	178.98	13.06%	13%	1.89%
Apr-16	42,841.82	0%	0%	183.54	2.55%	3%	1.81%
May-16	43,609.04	2%	2%	171.24	-6.70%	-7%	1.81%
Jun-16	43,721.64	0%	0%	179.03	4.55%	5%	1.64%
Jul-16	45,332.22	4%	4%	197.26	10.18%	10%	1.50%

Appendix F – Regression Table (Caterpillar Inc. Unlevered Beta) in Portuguese due to the used Excel default language.

<i>Estatística de regressão</i>	
R múltiplo	0.58998471
Quadrado de R	0.348081958
Quadrado de R ajustado	0.346562336
Erro-padrão	0.072581666
Observações	431

ANOVA

	<i>gl</i>	<i>SQ</i>	<i>MQ</i>	<i>F</i>	<i>F de significância</i>
Regressão	1	1.206700989	1.206700989	229.05818	9.06043E-42
Residual	429	2.260014133	0.005268098		
Total	430	3.466715122			

	<i>Coefficientes</i>	<i>Erro-padrão</i>	<i>Stat t</i>	<i>valor P</i>	<i>95% inferior</i>	<i>95% superior</i>	<i>Inferior 95.0%</i>	<i>Superior 95.0%</i>
Interceptar	7.4078E-05	0.003572273	0.020736938	0.983465145	-0.006947256	0.007095412	-	0.007095412
	0.010109315	1.219524089	15.13466815	9.06043E-42	1.061146931	1.377901247	1.061146931	1.377901247

Appendix G – CAPM unlevered discount rate summary table.

LAST 5Y	Monthly	Annualy
Rf		2.313%
Rm	1.26%	15.169%
Market Risk Premium		12.856%
Beta		1.220
Expected Return		17.991%