



THE EXPENDITURES



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Company Overview

Overview

- ▶ Claims 27% of the branded diabetes treatment market
- ▶ Claims 47% of the market compromising insulin therapy
- ▶ Claims 20% of Revenues from the biopharmaceutical market
- ▶ Head quartered in Denmark
- ▶ Manufactures Insulin in US



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History

- ▶ 1923 - Nordisk Insulinlaboratorium
- ▶ 1925 - Novo Terapeutisk Laboratorium
- ▶ 1974 - Listed on the Copenhagen Stock Exchange
- ▶ 1981 - Listed on the US Stock Exchange
- ▶ 1989 - Merger (Novo Nordisk)



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Segments

- ▶ Diabetes Care
- ▶ Obesity and Weight Management
- ▶ Haemophilia Management
- ▶ Growth Hormone Therapy
- ▶ Hormone Replacement Therapy



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Diabetes Care

Insulin - Xultophy, Ryzodeg, Tresiba, Levemir, NovoMix, NovoRapid, NovoLog

GLP1 - Victoza

OAD - NovoNorm

Human Insulin - Mixtard, Actrapid, Insulatard



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Obesity and Weight Management

▶ Saxenda



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Haemophilia Management

- ▶ NovoEight Recombinant Factor VIII
- ▶ NovoSeven Recombinant Factor VIIa
- ▶ NovoThirteen Recombinant Factor XIII-A subunit



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Growth Hormone Therapy

- ▶ Norditropin FlexPro
- ▶ Norditropin NordiFlex
- ▶ Norditropin SimpleXx
- ▶ Norditropin Nordilet



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Hormone Replacement Therapy

▶ Vagifem



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News

- ▶ Class action Lawsuit
- ▶ Sanofi Lawsuit
- ▶ Long-lasting insulin Tresiba approval
- ▶ Acquisition of Calibrium & MB2



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Risk

- ▶ Competition
- ▶ Government regulation
- ▶ Expiring Patents
- ▶ FDA's additional safety measures



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Competitive Advantages

- ▶ Economies of Scale
- ▶ Intangible Assets- Brand Name & Patents
- ▶ Huge Barriers to entry



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Qualitative Analysis

Qualitative Analysis

Metrics	Goals	NVO
Sustained Competitive Advantage?	Yes	Yes
Easily Explained?	Yes	Yes
Heavily Unionized?	No	No*
Heavy Capital Infusion?	No	Borderline
Require Lots of R&D?	No	Yes
Can Inventory Become Obsolete?	No	Yes
Chronic "1-Time" Write Offs?	No	No
Can Raise Prices To Offset Inflation?	Yes	Yes
Can Sell More In The Future?	Yes	Yes
Billion \$ Competitor?	No	No



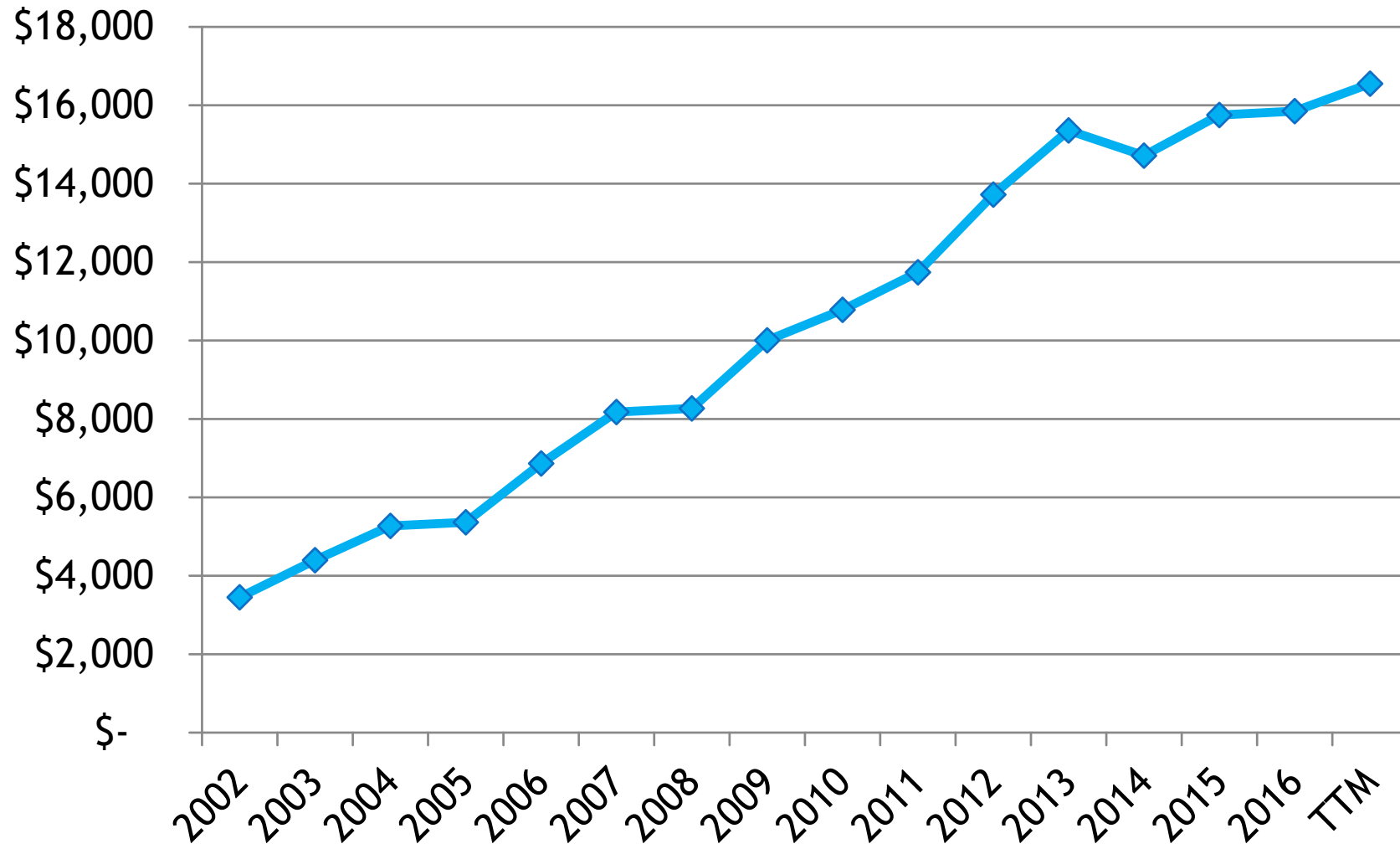
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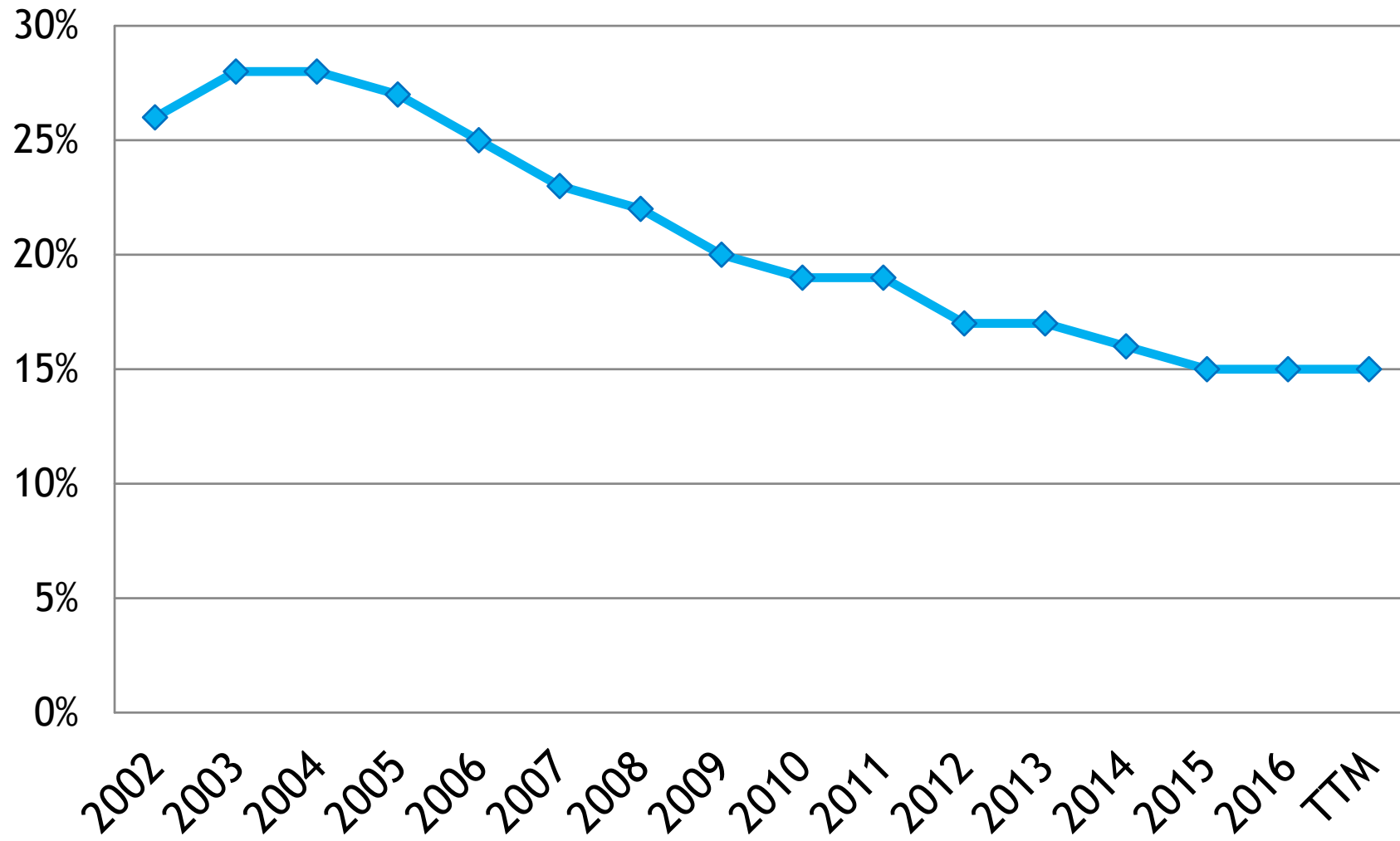
Interpretation of Financial Statements

Revenue (in millions)



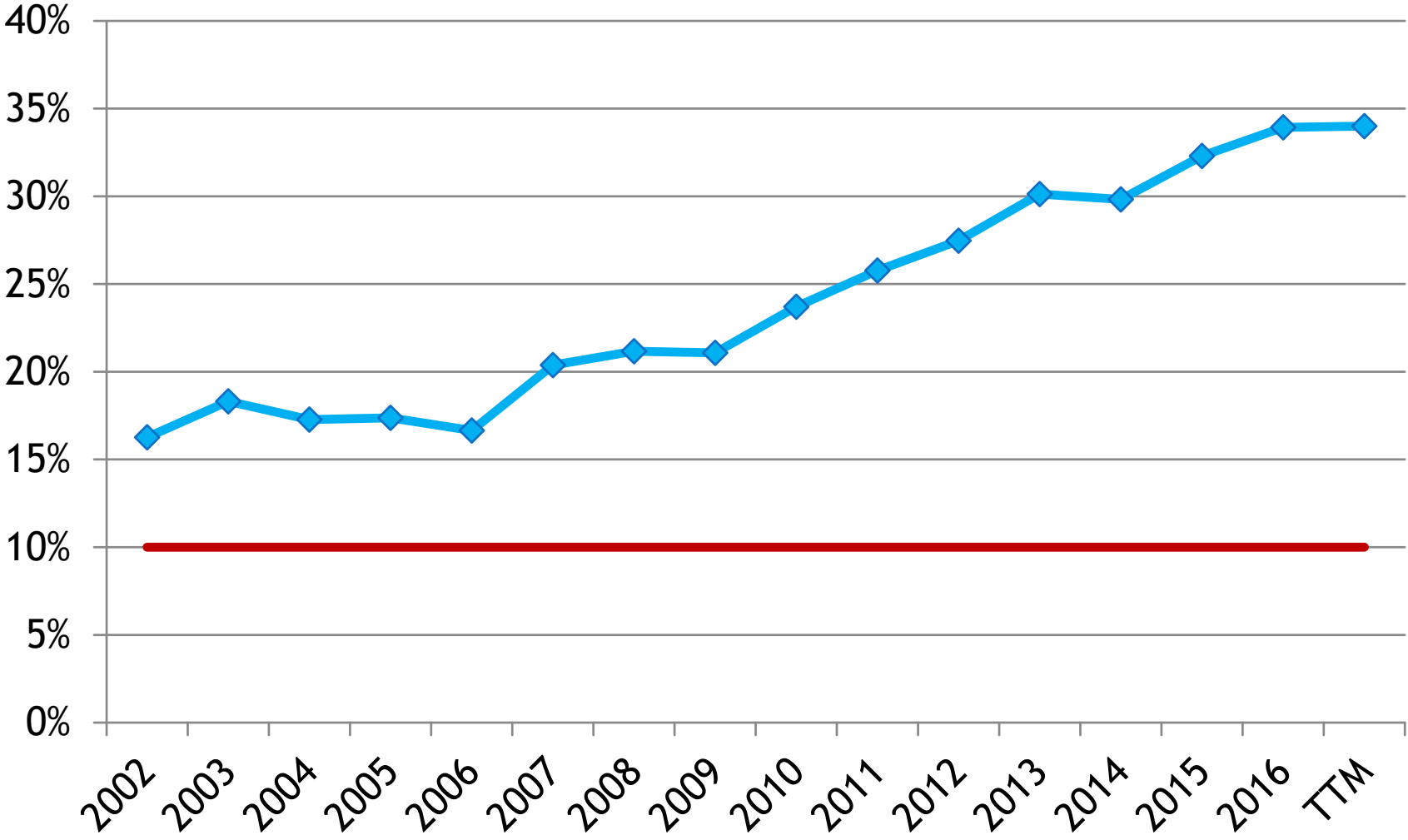
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COGS to Revenue



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Net Profit Margin

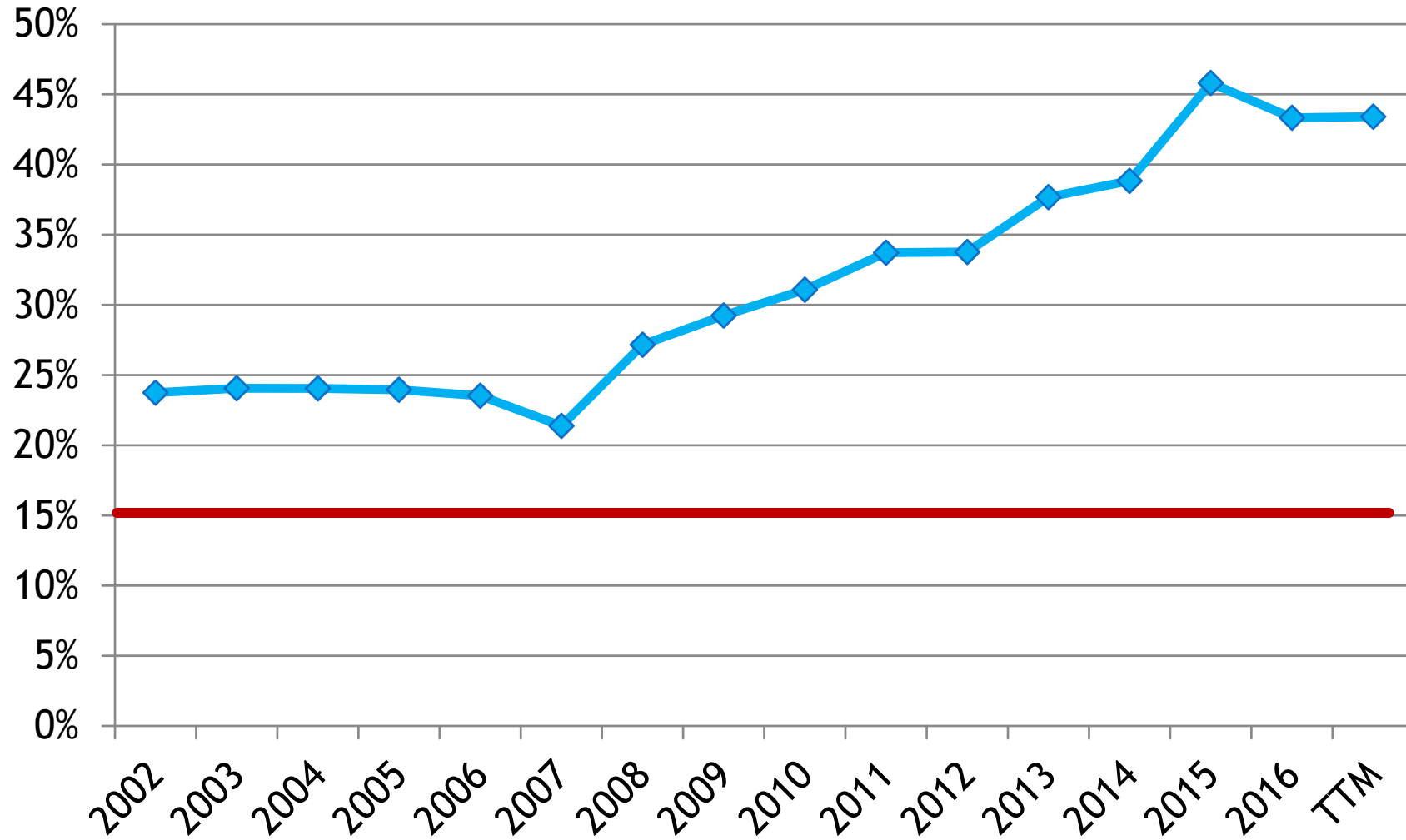


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Statistics taken from GuruFocus.com

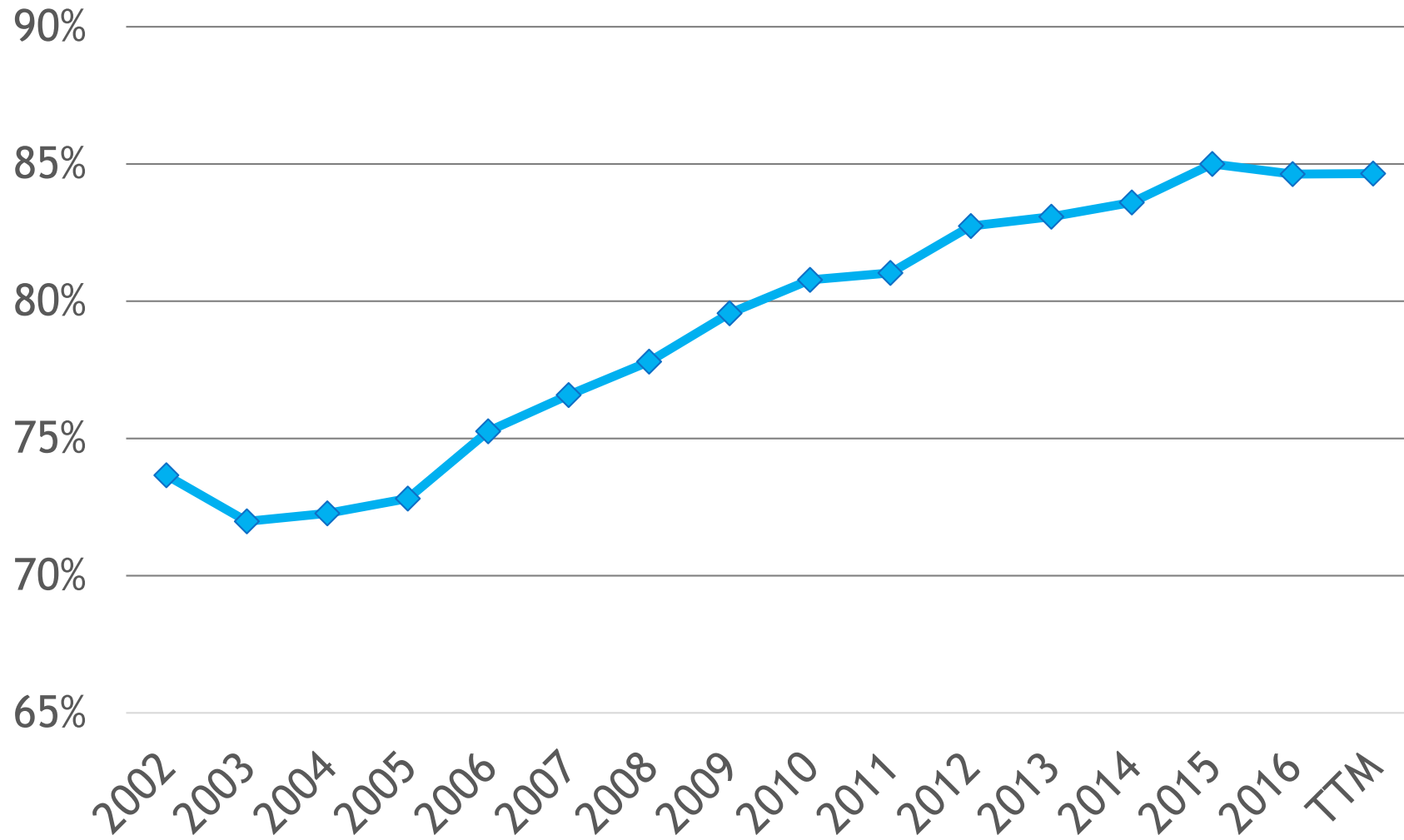
> 15%

Operating Profit Margin



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Gross Profit Margin

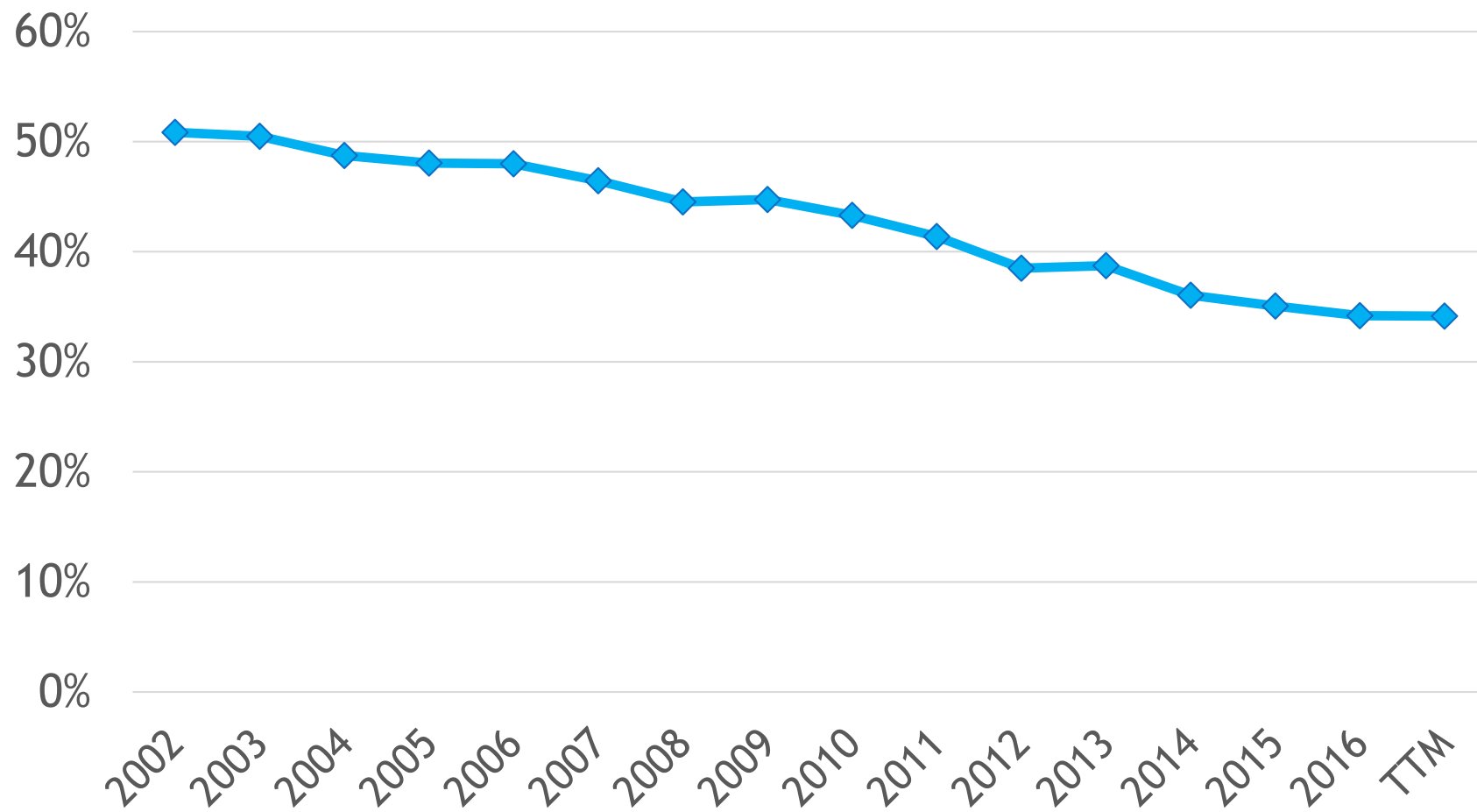


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Statistics taken from GuruFocus.com

> 20%

Sales, General & Administration to Gross Profit

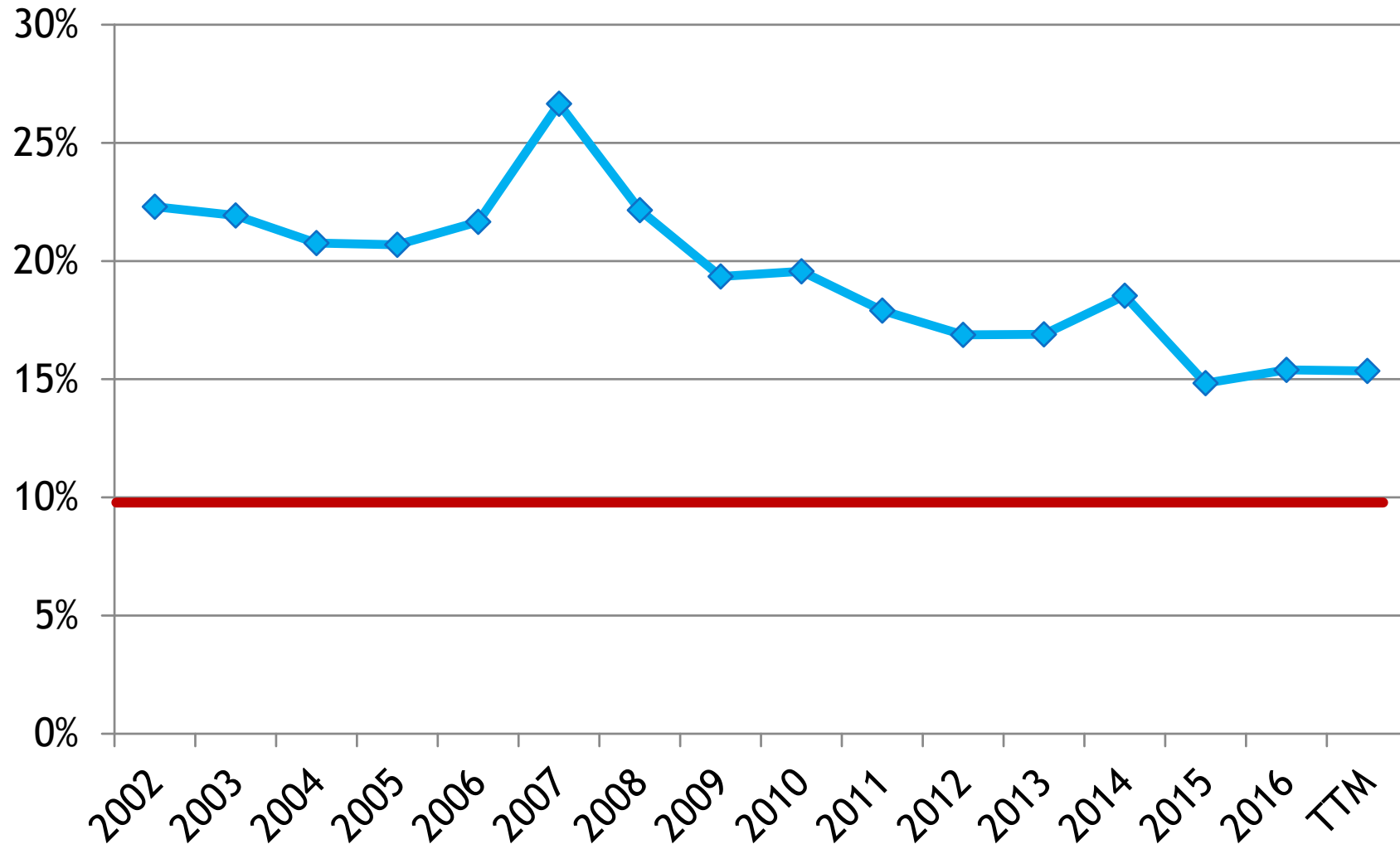


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Statistics taken from GuruFocus.com

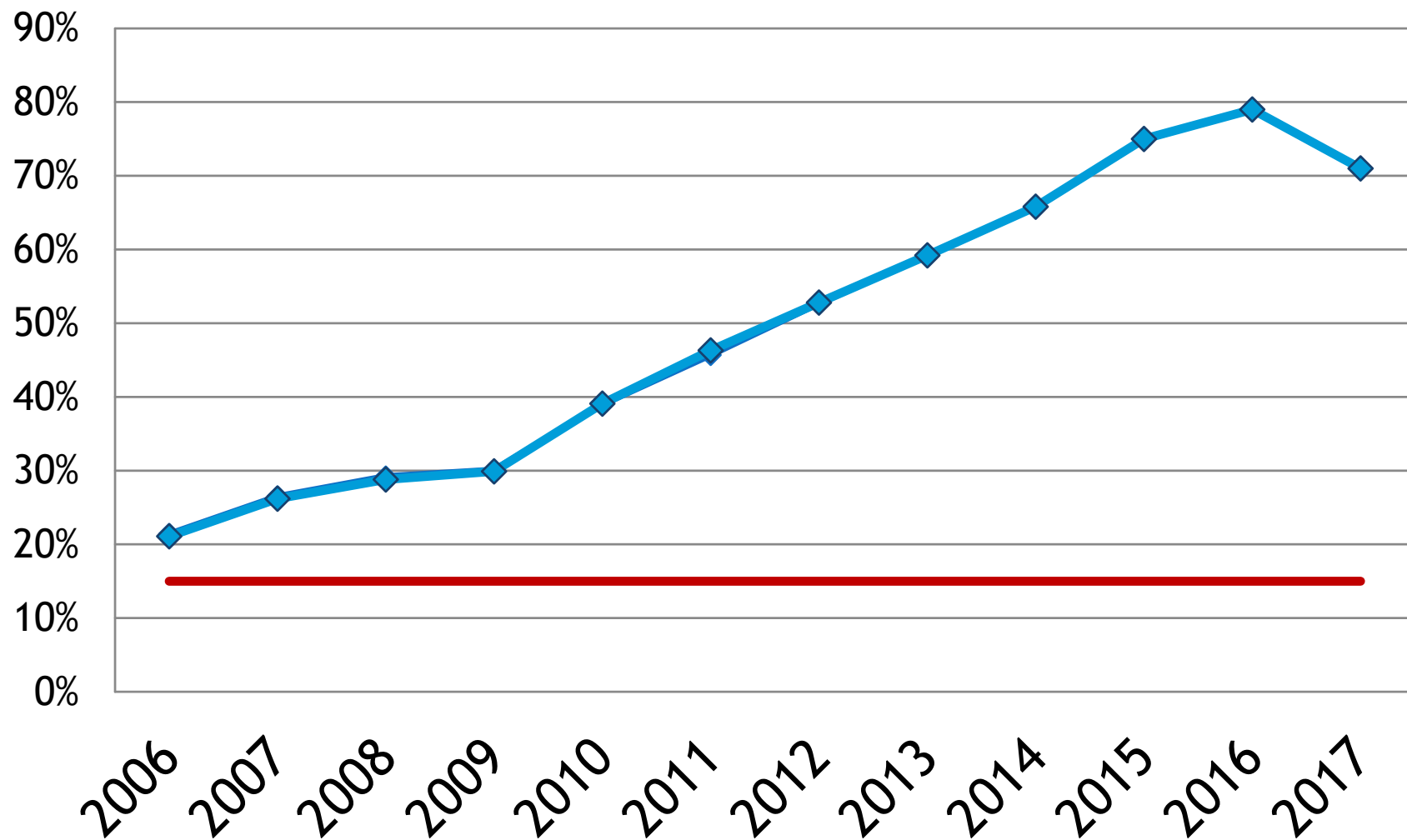
≤ 80%

Research & Development to Gross Profit



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% ROE and ROC

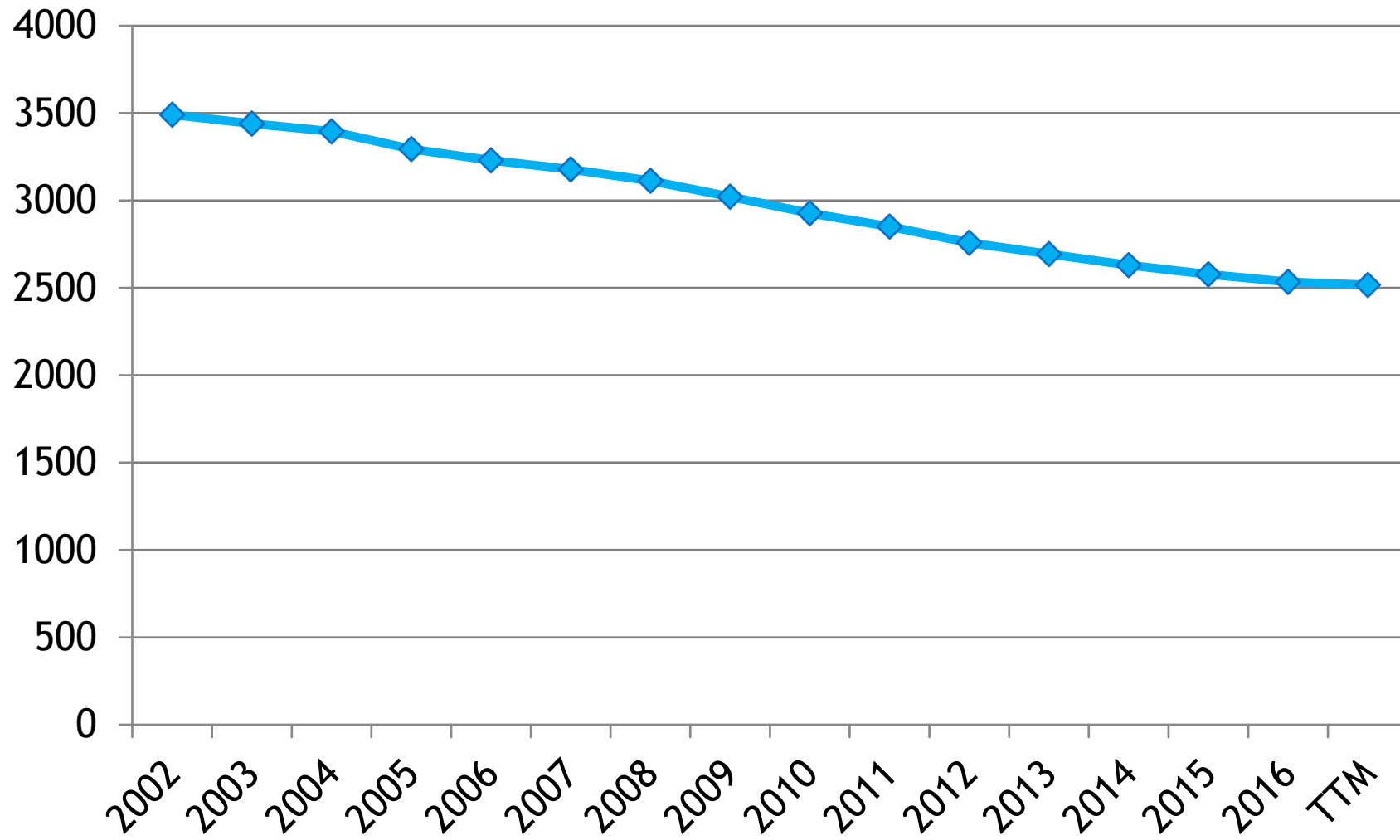


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Statistics taken from Value Line

> 15%

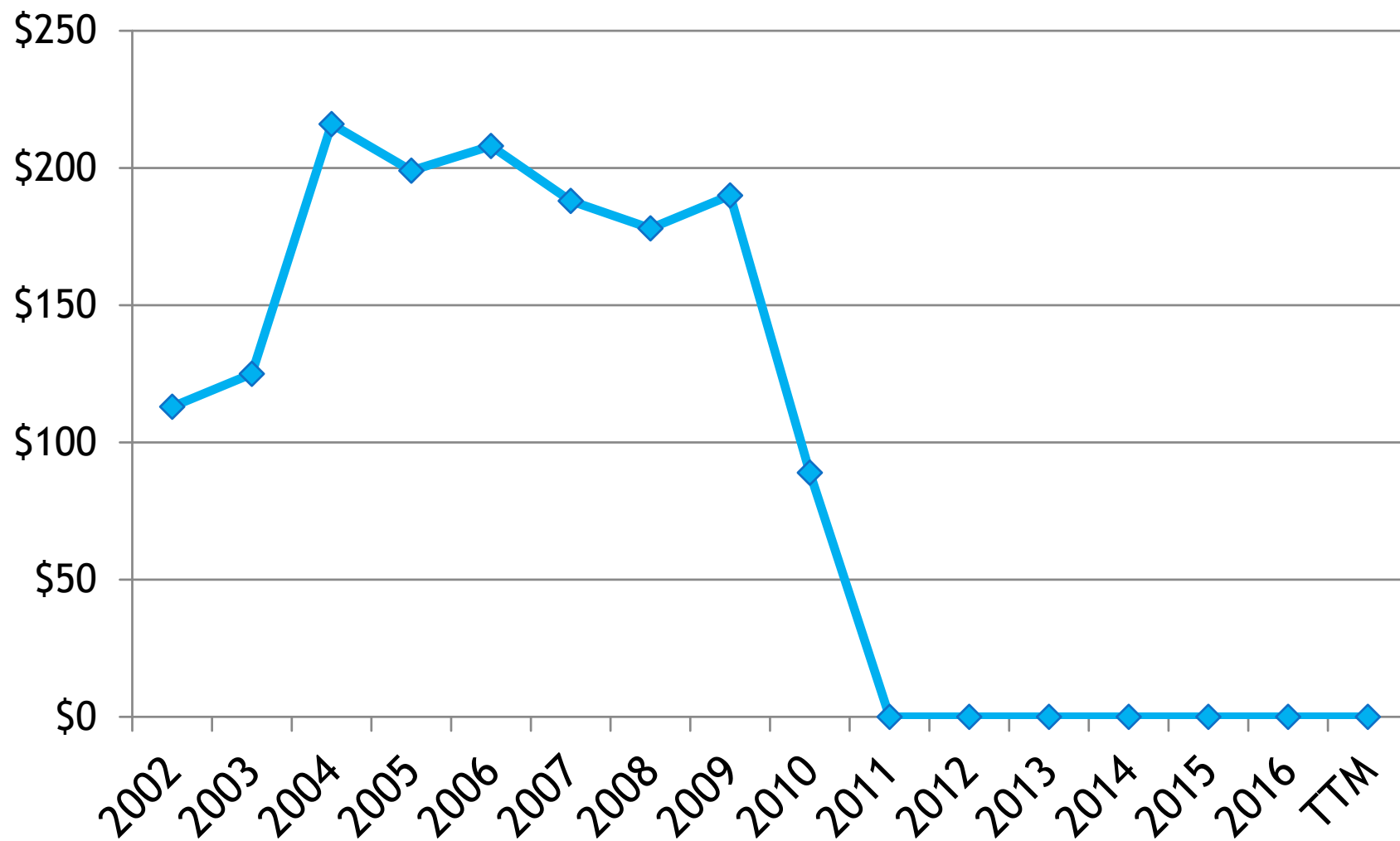
Shares Outstanding (Diluted)



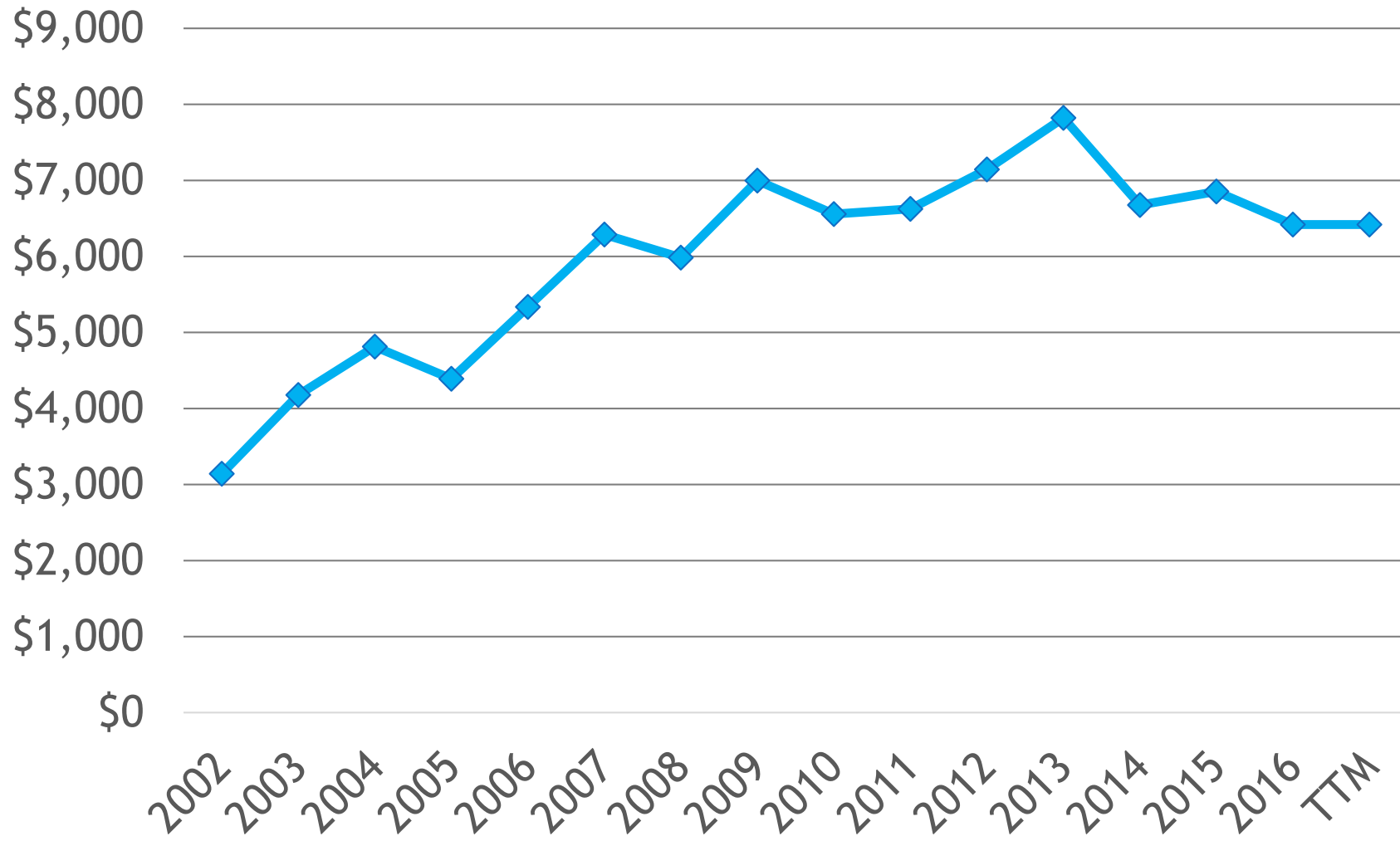


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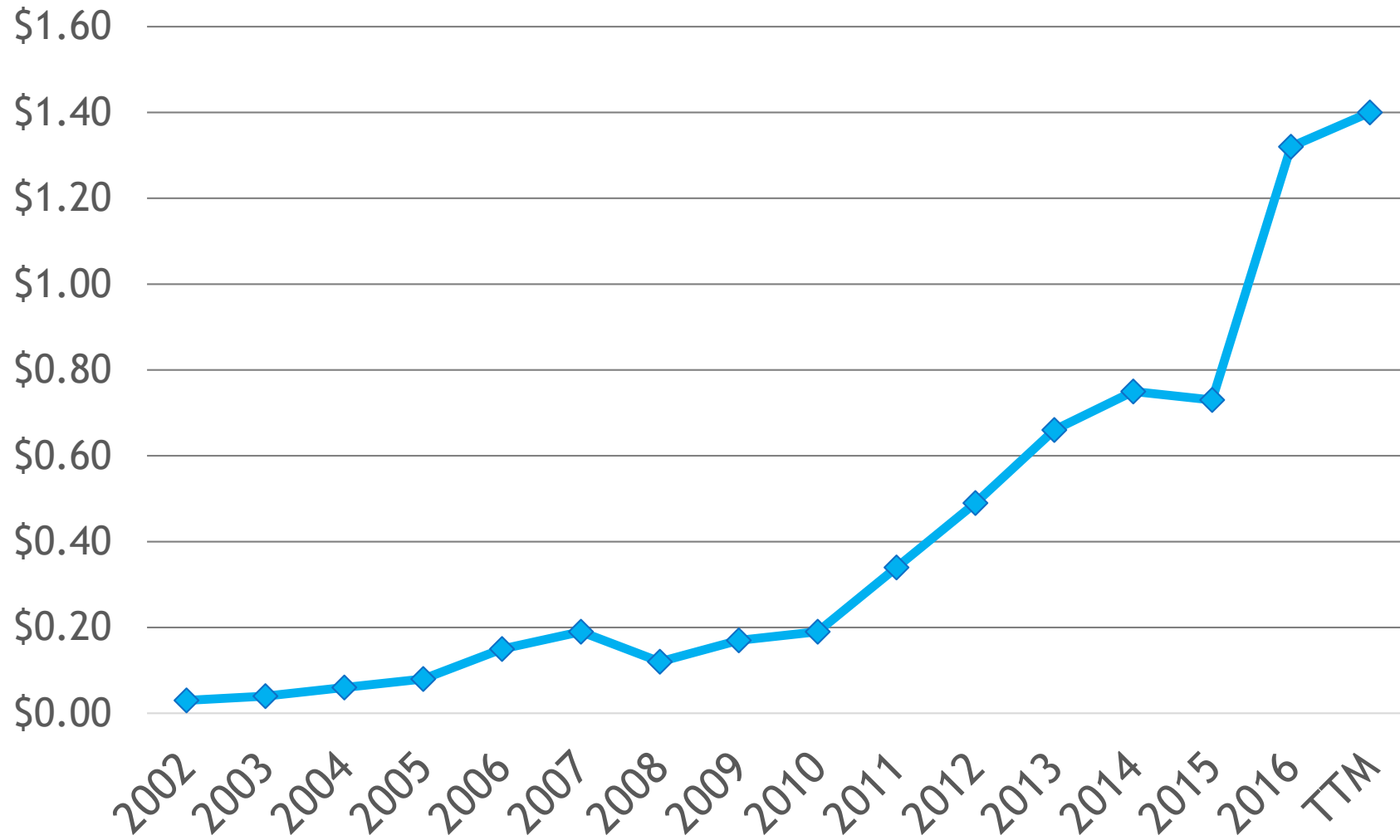
Long-Term Debt (in millions)



Shareholder's Equity

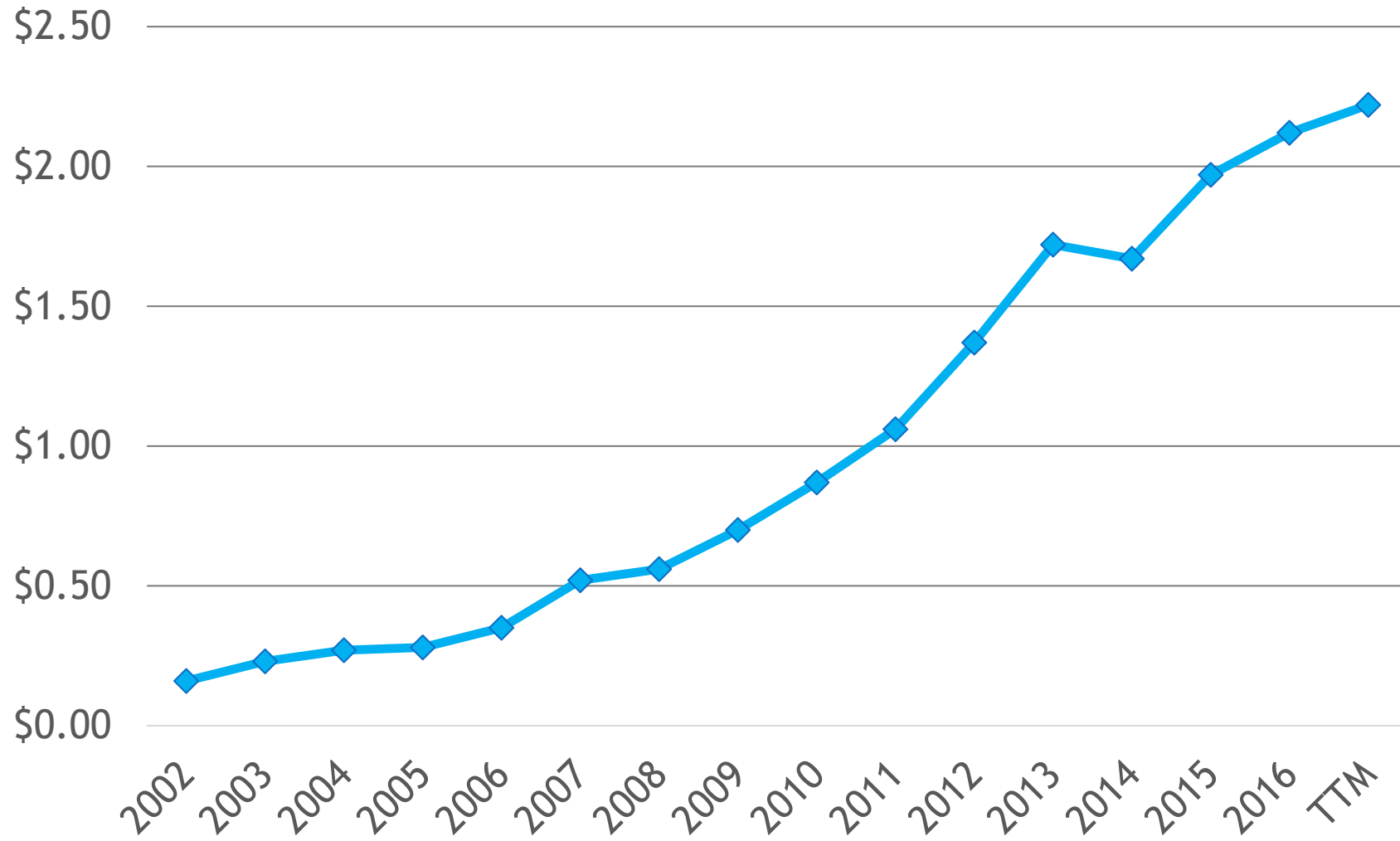


Dividends per Share



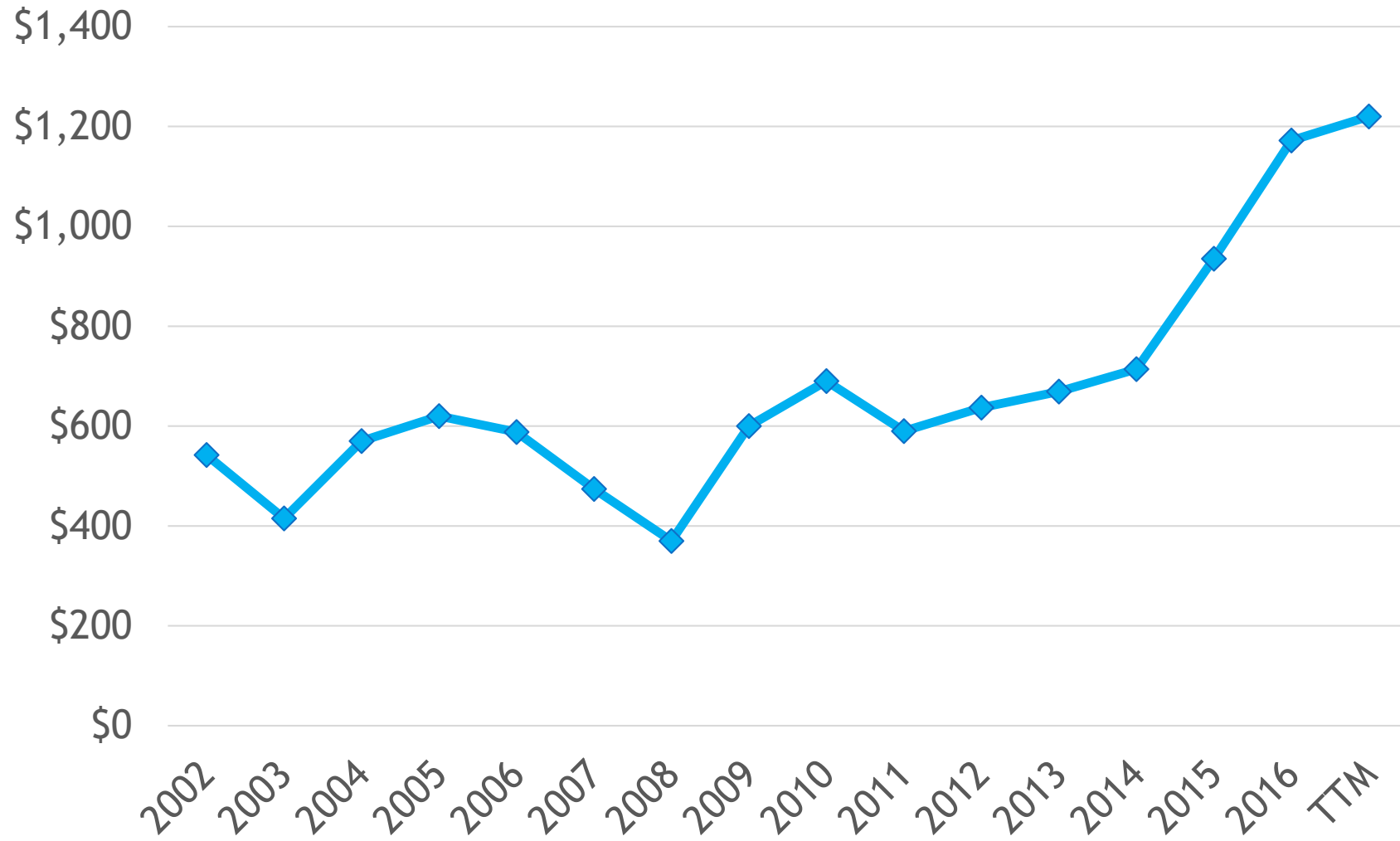
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Earnings per Share (Diluted)



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Capital Expenditures (in millions)

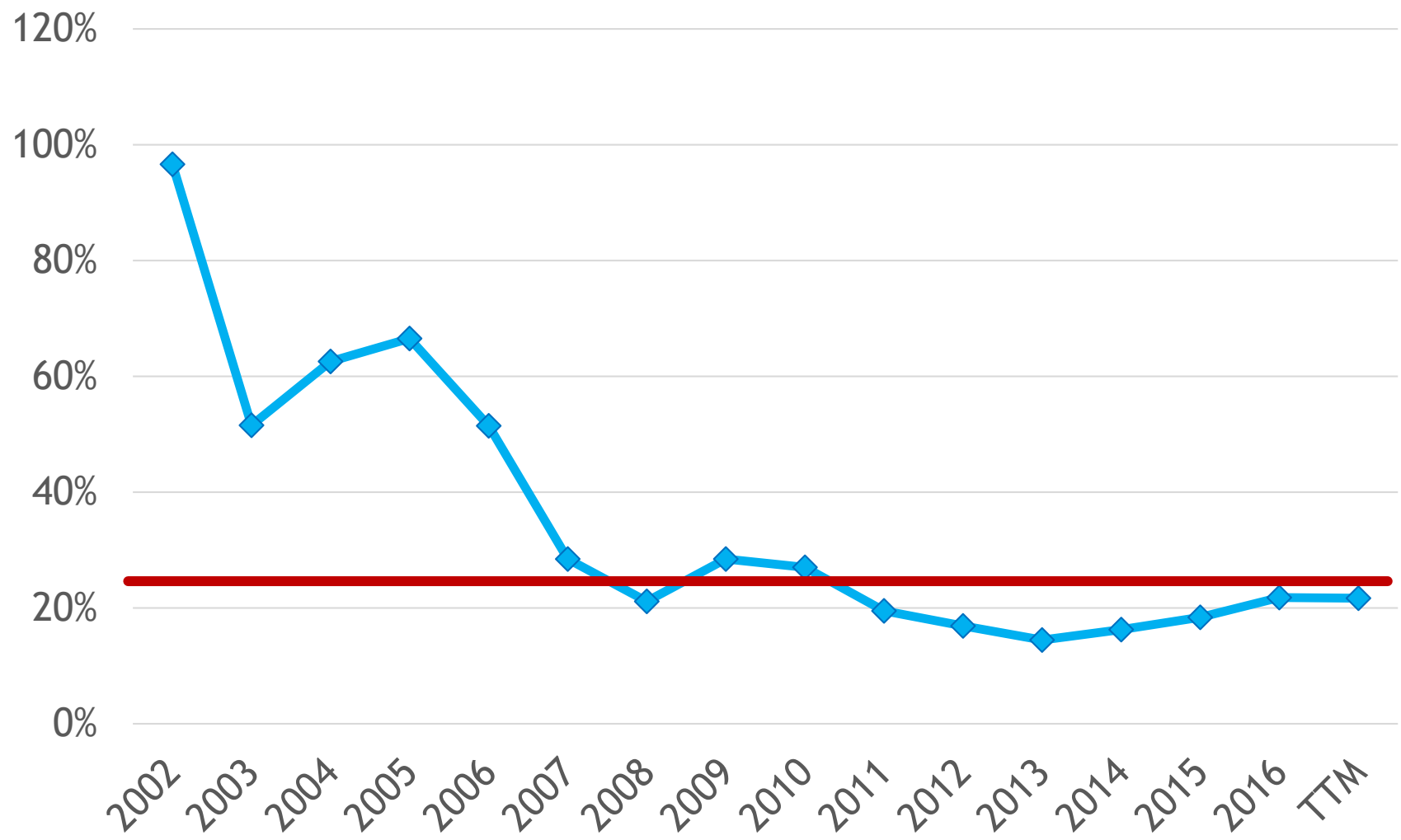


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Capital Expenditures to Net Income



Statistics taken from GuruFocus.com

≤ 25%



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Quantitative Analysis

Quantitative Analysis



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Metrics	Goals	NVO
Gross Profit Margin	$\geq 20\%$	84.65%
% SG&A of GP	$\leq 80\%$	34.15%
% R&D of GP	$\leq 10\%$	15.35%
% Depreciation of GP	$\leq 10\%$	3.36%
Interest % of OP	$\leq 15\%$	1.53%
Net Profit Margin	$\geq 10\%$	34%
Current Ratio	≥ 1	1.26
Obligation Ratio	< 5 yrs	-0.17 yrs
Adj. Debt to Shdr Equity	< .8	1.15

Quantitative Analysis



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Metrics	Goals	NVO
Return on Equity	$\geq 15\%$	71.0%
Return on Capital	$\geq 15\%$	71.0%
Dividend Payout Ratio	$\leq 60\%$	63.41%
Preferred Stock	None	None
Capital Exp. to Net Income	$\leq 25\%$	21.68%
Net Earnings Trend	Up	Up
Retained Earnings Trend	Up	Up

Quantitative Analysis



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Metrics	Trends
Revenue per Share	Increasing
Cash-flow per Share	Increasing
Free Cash-flow per Share	Increasing
Earnings per Share	Increasing
Dividends per Share	Increasing
Capital Expenditure per Share	Increasing
Book-value per Share	Consistent

Quantitative Analysis



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Metrics	Goals
Revenue	Increasing
Operating Profit Margin	Increasing
Net Profit Margin	Increasing
Shareholder Equity	Decreasing*
Return on Equity	Increasing
Return on Assets	Increasing
Common Shares Outstanding	Decreasing



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Industry Breakdown

Industry Breakdown



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Company (2017)	Market Cap	Operating Profit Margin	Net Profit Margin	Obligation Ratio
NVO	\$91 Billion	46.0%	34.4%	-0.17
Eli Lilly	\$81.5 Billion	27.0%	20.0%	1.62
Sanofi	\$102 Billion	30.0%	13.7%	3.31
Pfizer	\$197 Billion	50.0%	21.5%	1.98

Industry Breakdown



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Company (2017)	Revenue	ROE	ROC	ROA
NVO	\$17.33 Billion	71.0%	71.0%	42.62%
Eli Lilly	\$22.00 Billion	26.0%	18.0%	7.47%
Sanofi	\$39.00 Billion	9.0%	7.0%	29.87%
Pfizer	\$55.00 Billion	18.5%	13.5%	4.24%

Statistics taken from Value Line

Industry Breakdown



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Company (2017)	P/E	P/S	P/B	EV/EBIT
NVO	15.5%	5.25%	13.07%	11.73%
Eli Lilly	32.73%	4.22%	6.65%	27.40%
Sanofi	37.04%	4.65%	6.33%	22.30%
Pfizer	29.37	3.99	3.48	24.03

DuPont



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DuPont Historical



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DuPont	NPM	*TAT	*FLM	= ROE
<i>Equations</i>	<i>NI/R</i>	<i>R/A</i>	<i>A/SE</i>	=
2011	25.77%	1.03	1.73	45.65%
2012	27.47%	1.19	1.62	52.75%
2013	30.14%	1.19	1.65	59.16%
2014	29.82%	1.15	1.91	65.72%
2015	32.30%	1.18	1.95	74.22%
2016	33.93%	1.15	2.15	83.78%

Statistics calculated from Net Income, Revenue, Assets & Equity taken from GuruFocus.com

DuPont Comparison



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DuPont	NPM	*TAT	*FLM	= ROE
<i>Equations</i>	<i>NI/R</i>	<i>R/A</i>	<i>A/SE</i>	=
NVO	34.00%	1.20	2.15	87.66%
Eli Lilly	12.90%	0.55	2.77	19.55%
Sanofi	12.54%	0.93	1.46	17.11%
Pfizer	13.66%	0.31	2.88	12.12%

Debt



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Debt



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Current Liabilities	+Pref Stock	+Pension Shortfall	+Lease Obligations x 7	-Cash	/Net Income	Obligation Ratio
156.9	0	173.4	183.5 x 7	2,474	5,965	-0.14 yrs

Total Liabilities	+Pref Stock	+Pension Shortfall	+Lease Obligations x 7	-Cash	/Net Income	Obligation Ratio
7,412	0	173.4	183.5 x 7	2,474	5,965	1.07 yrs



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Value Bands

Price/Sales



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Price/Sales

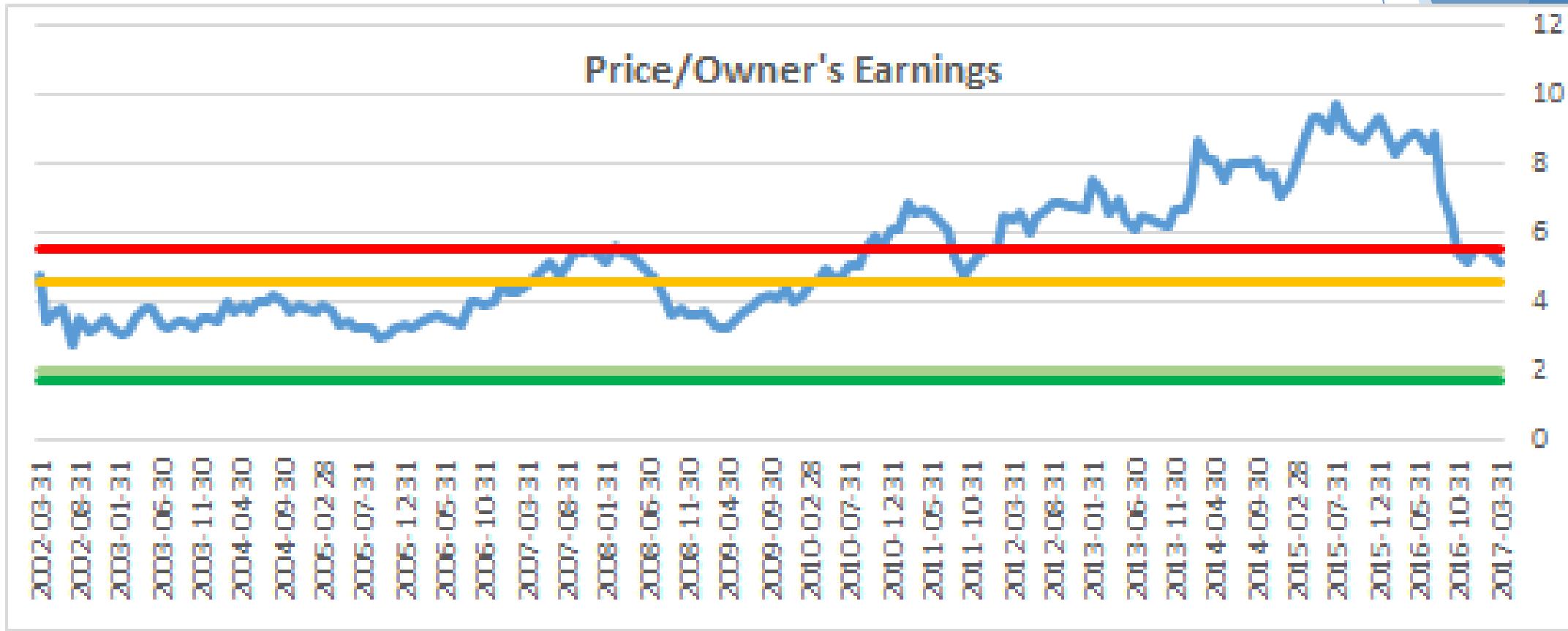


76%

Price/Owner's Earnings



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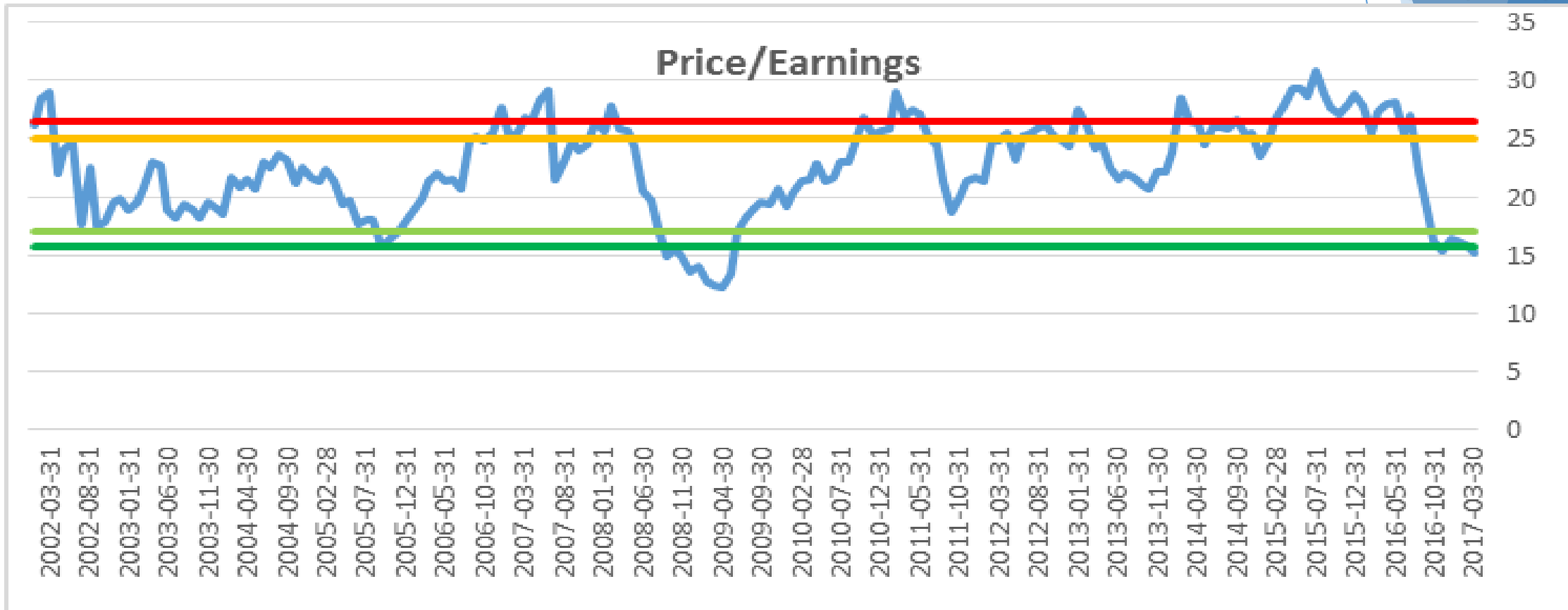


10%

Price/Earnings



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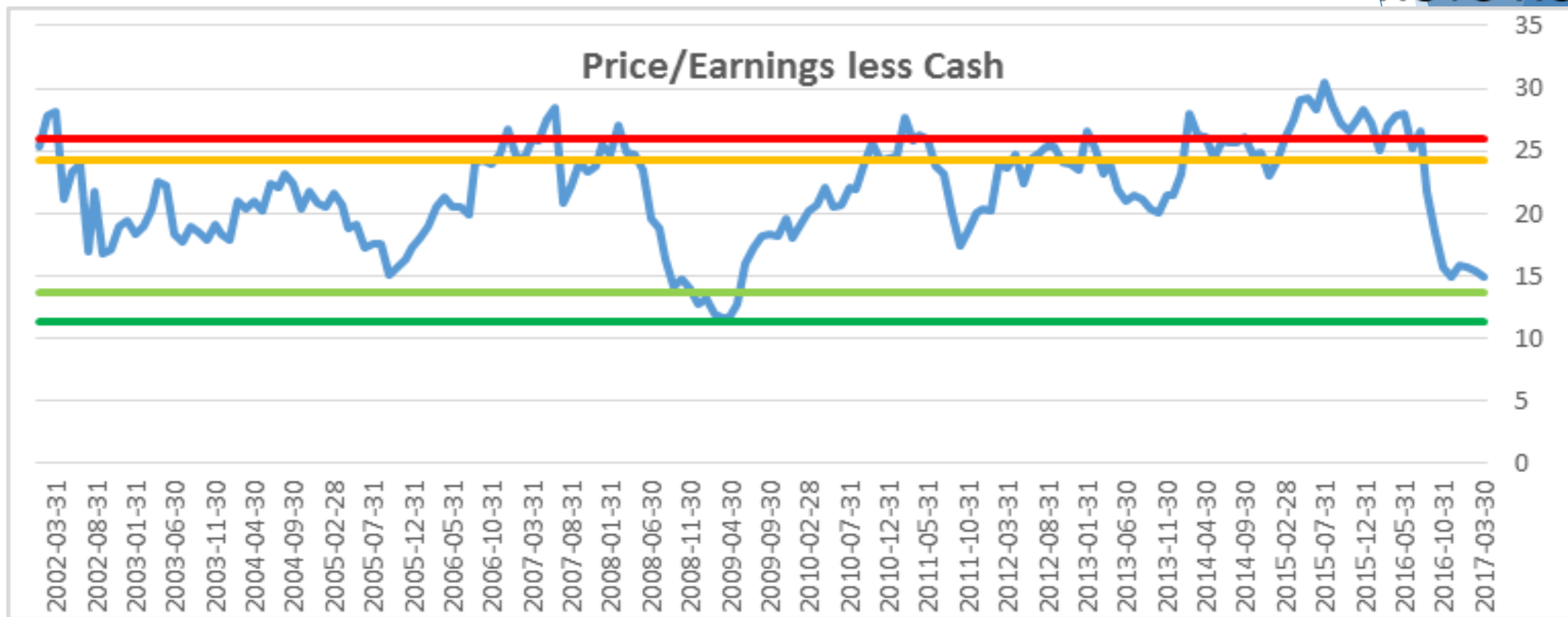


16%



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Price/Earnings less Cash



34%

Price/Book



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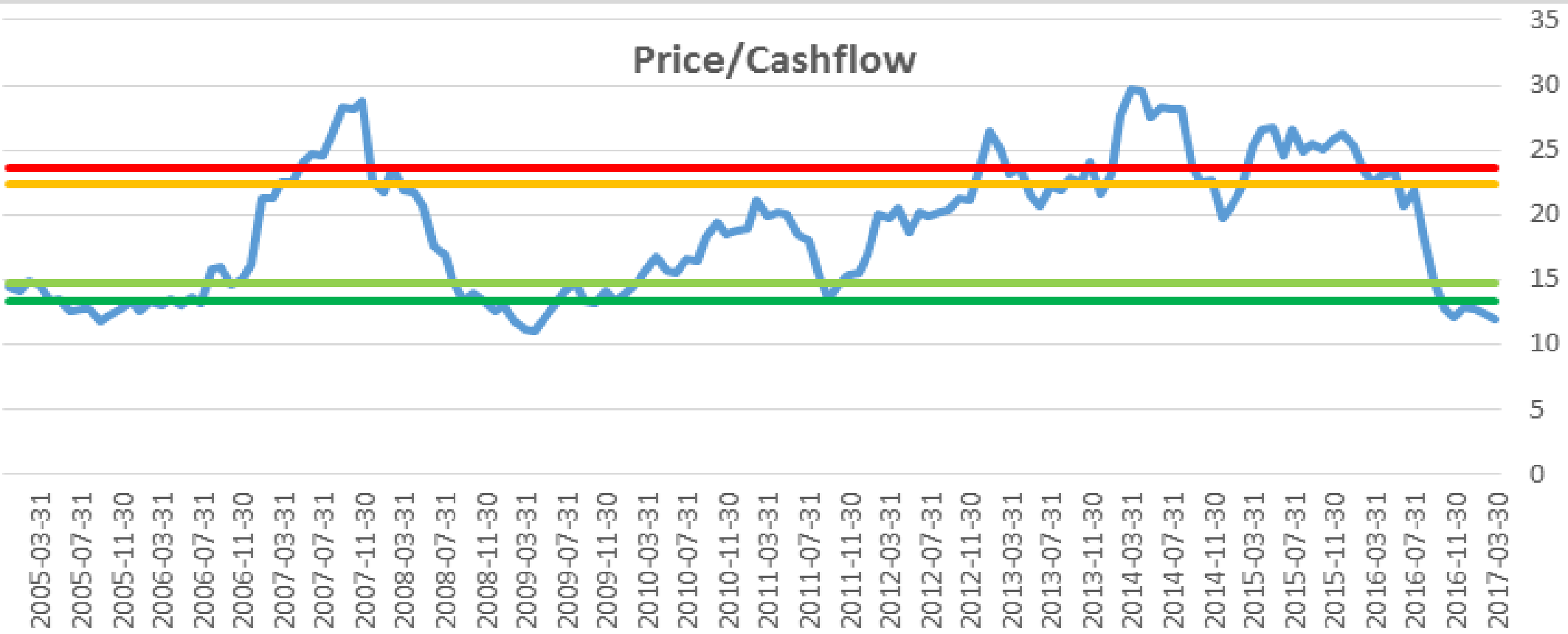
89%

Price/Cash Flow



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Price/Cashflow



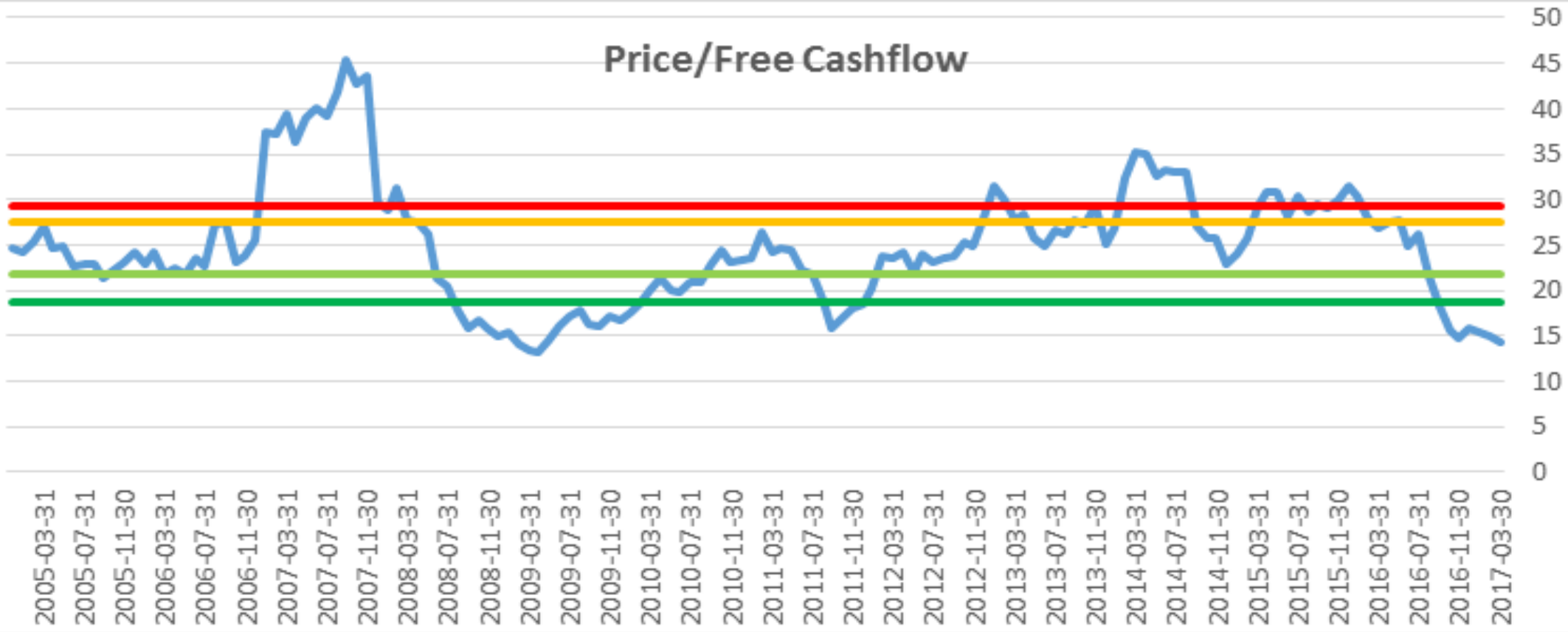
3%

Price/Free Cash Flow



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Price/Free Cashflow

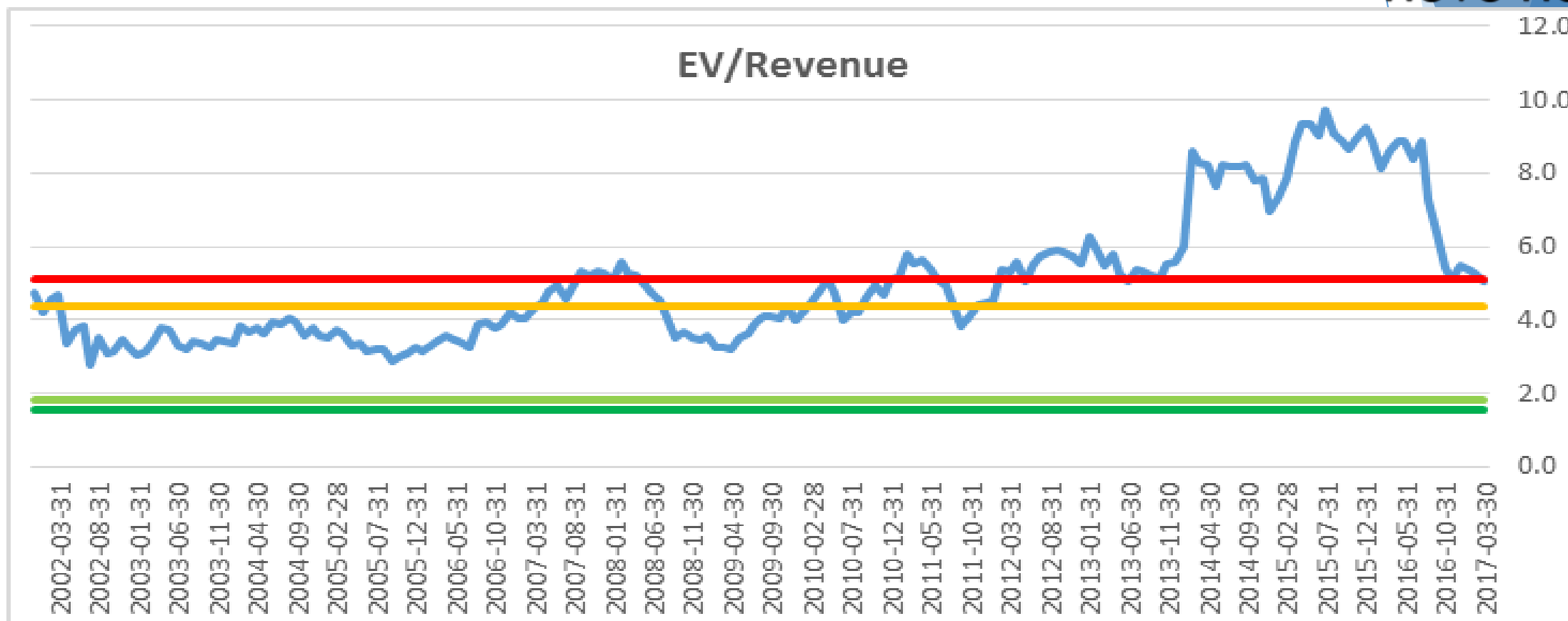


2%

EV/Revenue



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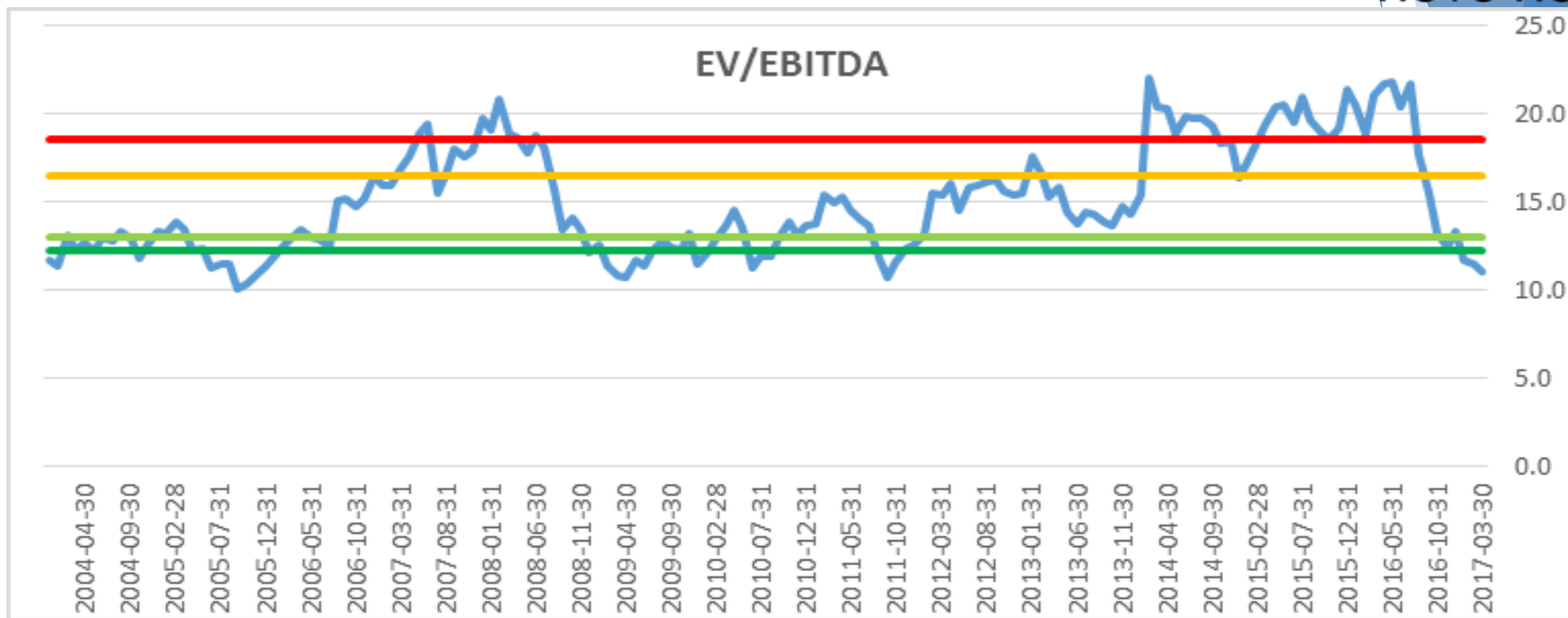


79%

EV/EBITDA



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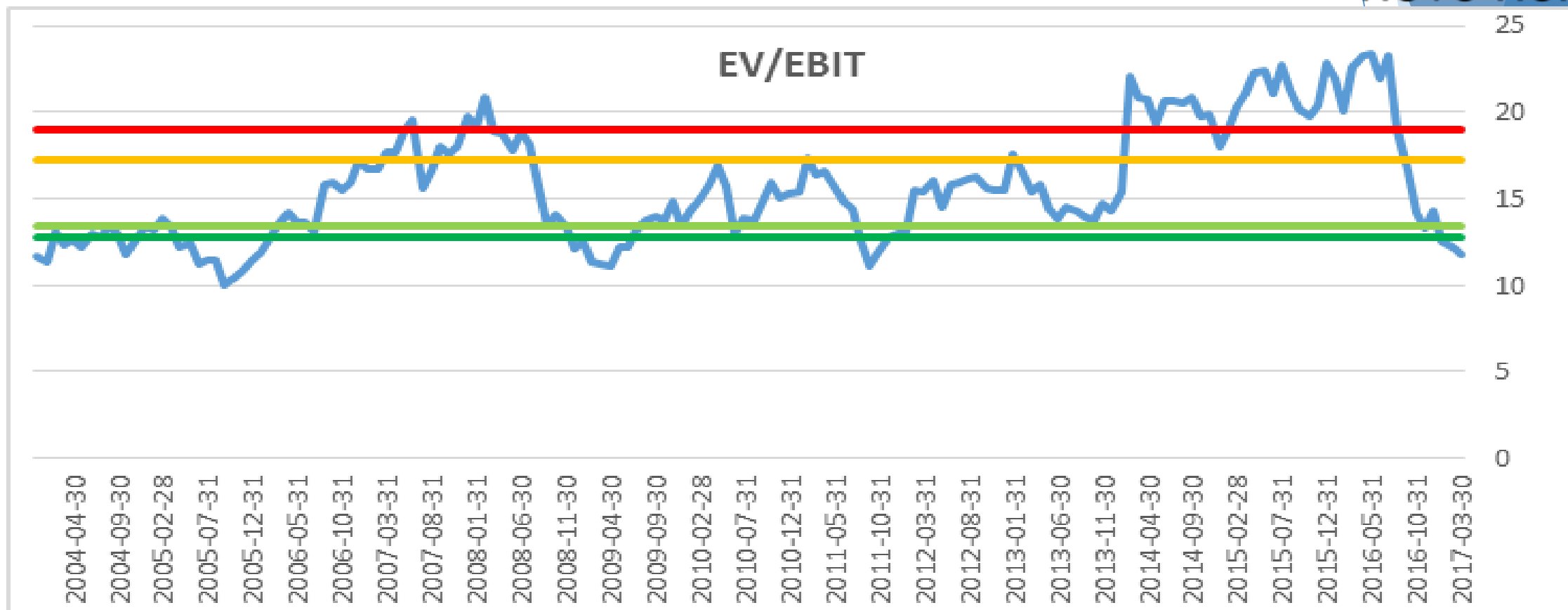


4%

EV/EBIT



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9%



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Conscious Investor

Regains Market Favor



31% increase in P/E

	<u>Price</u>	<u>EPS</u>	<u>P/E</u>	<u>Hgrowth</u>	<u>Payout</u>	<u>STRET (Annualized Rate of Return)</u>
Default	\$34.04	\$2.22	15.3x	9.6%	35%	11.7%
Regains market favor	\$34.04	\$2.22	20x	9.6%	35%	21.6%

Continues to Fall Out of Favor



22% decrease in P/E

	<u>Price</u>	<u>EPS</u>	<u>P/E</u>	<u>Hgrowth</u>	<u>Payout</u>	<u>STRET (Annualized Rate of Return)</u>
Default	\$34.04	\$2.22	15.3x	9.6%	35%	11.7%
Continues to fall out of favor	\$34.04	\$2.22	12x	9.6%	35%	3.6%

Kill It



22% decrease in P/E, 42% decrease in growth

	<u>Price</u>	<u>EPS</u>	<u>P/E</u>	<u>Hgrowth</u>	<u>Payout</u>	<u>STRET (Annualized Rate of Return)</u>
Default	\$34.04	\$2.22	15.3x	9.6%	35%	11.7%
Growth rate slows (Kill It)	\$34.04	\$2.22	12x	5.6%	35%	-0.1%

Kill It Again



22% decrease in P/E,
42% decrease in growth, and reduce dividend payout to zero

	<u>Price</u>	<u>EPS</u>	<u>P/E</u>	<u>Hgrowth</u>	<u>Payout</u>	<u>STRET (Annualized Rate of Return)</u>
Default	\$34.04	\$2.22	15.3x	9.6%	35%	11.7%
Kill It (Harder)	\$34.04	\$2.22	12x	5.6%	0%	-2.7%



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Intra-Portfolio

ROE

Symbol	ROE %
NVO	88.84
BF.B	77.11
IBM	74.04
PEP	53.33
CHRW	41.86
BBBY	28.03
DG	23.21
MSFT	23.11
PII	22.99
MCK	21.65
UNP	20.79
CMI	19.92
ORCL	18.60
UHAL	18.13
WMT	17.59
QCOM	15.92
NSRGY	13.94
BRK.B	9.05
NXPI	1.82
AIG	-0.98



ROIC

Symbol	ROIC %
NVO	143.18
MSFT	95.95
BF.B	35.42
IBM	26.66
CHRW	25.32
ORCL	25.05
BBBY	21.84
PEP	21.74
UHAL	20.01
CMI	18.87
QCOM	17.25
PII	17.11
MCK	17.00
DG	15.85
UNP	13.60
WMT	13.05
NSRGY	10.80
BRK.B	8.14
AIG	-0.25



P/E

Symbol	PE Ratio
AIG	0.00
BBBY	8.61
IBM	14.03
NVO	15.31
DG	16.00
WMT	16.29
UHAL	16.85
BRK.B	17.11
QCOM	17.44
MCK	17.67
BF.B	17.97
CMI	18.46
UNP	21.05
ORCL	21.26
CHRW	21.63
PII	25.55
PEP	25.73
NSRGY	27.55
MSFT	30.85
NXPI	179.24



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P/S

Symbol	PS Ratio
BF.B	6.12
MSFT	6.05
NVO	5.18
ORCL	5.06
UNP	4.49
NXPI	3.81
QCOM	3.59
NSRGY	2.63
PEP	2.60
UHAL	2.17
IBM	2.09
CMI	1.46
AIG	1.33
PII	1.20
DG	0.91
CHRW	0.85
BBBY	0.51
WMT	0.45
MCK	0.18
BRK.B	0.00



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P/FCF

Symbol ▼	Price-to-Free-Cash-Flow ▲
WMT	10.62
UNP	22.33
UHAL	0.00
QCOM	15.52
PII	15.04
PEP	22.12
ORCL	16.28
NXPI	19.31
NVO	14.50
NSRGY	21.53
MSFT	18.90
MCK	5.95
IBM	13.04
DG	19.25
CMI	19.18
CHRW	25.38
BRK.B	0.01
BF.B	42.98
BBBY	6.94
AIG	28.92



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EV/EBIT

Symbol	EV-to-EBIT
NXPI	0.00
BBBY	5.83
UHAL	9.45
DG	10.90
WMT	11.44
BRK.B	11.61
NVO	11.63
MCK	12.04
CMI	13.14
BF.B	13.29
UNP	13.48
QCOM	13.54
ORCL	13.55
CHRW	14.29
IBM	15.26
PEP	18.31
PII	19.02
NSRGY	19.05
MSFT	21.51
AIG	66.13



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Discounted Cash Flow

DCF - Guru Default



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Earnings Per Share ?: \$ 2.22

Growth Rate In the Next ?: 10 Years: 20 %

Terminal Growth Rate ?: 4 %

Years of Terminal Growth ?: 10

Discount Rate ?: 12 %

Business Predictability ?: ★★★★★

Save Parameters

DCF Reverse DCF NEW

Fair Value ?: \$ 63.2

Tangible Book Value ?: \$ 2.39
 Add to Fair Value

Growth Value ?: \$ 33.09

Terminal Value ?: \$ 30.11

Stock Price: \$ 33.79

Margin Of Safety: **47%**

Annual Rates (per share)	10 yrs	5 yrs	12 months
Revenue Growth (%)	14.80	13.60	5.30
EBITDA Growth (%)	19.20	17.30	11.60
EBIT Growth (%)	23.30	19.80	-0.40
EPS without NRI Growth (%)	22.60	19.70	10.70
Free Cash Flow Growth (%)	24.10	20.80	27.70
Book Value Growth (%)	7.00	2.60	-1.70

Adjusted DCF




Earnings Per Share ? : \$ 2.22

Growth Rate In the Next ? : 10 Years: **10.7 %**

Terminal Growth Rate ? : 4 %

Years of Terminal Growth ? : 15

Discount Rate ? : 12 %

Business Predictability ? : 

Save Parameters

DCF Reverse DCF **NEW**

Fair Value ? : \$ 38.06

Tangible Book Value ? : \$ 2.39
 Add to Fair Value

Growth Value ? : \$ 20.83

Terminal Value ? : \$ 17.23

Stock Price: \$ 33.79

Margin Of Safety: **11%**

Annual Rates (per share)	10 yrs	5 yrs	12 months
Revenue Growth (%)	14.80	13.60	5.30
EBITDA Growth (%)	19.20	17.30	11.60
EBIT Growth (%)	23.30	19.80	-0.40
EPS without NRI Growth (%)	22.60	19.70	10.70
Free Cash Flow Growth (%)	24.10	20.80	27.70
Book Value Growth (%)	7.00	2.60	-1.70



DCF - Value Line Growth

Earnings Per Share ? : \$ 2.22

Growth Rate In the Next ? : 10 Years: 9 %

Terminal Growth Rate ? : 4 %

Years of Terminal Growth ? : 15

Discount Rate ? : 12 %

Business Predictability ? : ★★★★★

Save Parameters

DCF Reverse DCF **NEW**

Fair Value ? : \$ 33.94

Tangible Book Value ? : \$ 2.39
 Add to Fair Value

Growth Value ? : \$ 19.18

Terminal Value ? : \$ 14.76

Stock Price: \$ 33.79

Margin Of Safety: 0%

ANNUAL RATES of change (per ADR)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Sales	15.5%	13.5%	7.0%
"Cash Flow"	19.0%	18.0%	8.5%
Earnings	21.5%	21.0%	9.0%
Dividends	28.5%	30.0%	11.0%
Book Value	8.5%	5.0%	3.0%

DCF Reverse



DCF Reverse DCF **NEW**

Growth Rate ? :

8.93%

Revenue Growth Rate ? : 14.80%(10y) 13.60%(5y) 5.30%(1y)

EBITDA Growth Rate ? : 19.20%(10y) 17.30%(5y) 11.60%(1y)

Earnings Growth Rate ? : 22.60%(10y) 19.70%(5y) 10.70%(1y)

Free Cash Flow Growth Rate ? : 24.10%(10y) 20.80%(5y) 27.70%(1y)

Book Value Growth Rate ? : 7.00%(10y) 2.60%(5y) -1.70%(1y)

Earnings Per Share ? : \$ 2.22

Growth Rate In the Next ? : 10 Years

Terminal Growth Rate ? : 4 %

Years of Terminal Growth ? : 15

Discount Rate ? : 12 %

Business Predictability ? :  ?

Save Parameters



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Conclusion

Conclusion

- ▶ Leading Market Share in Insulin Therapy
- ▶ Consistently over our thresholds
- ▶ Diabetes market will continue to grow
- ▶ FDA regulations, patents, and upfront costs are barriers to entry



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“ The best thing that happens to us is when a great company gets into temporary trouble... We want to buy them when they're on the operating table. ”

- **Warren Buffett**

Recommendation

▶ Limit order: \$34.00



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