ROE, ROE, ROE to Float Your Boat
Return on Equity (ROE)

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Wisconsin Chapter

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STOCK MADE EASY INVESTING

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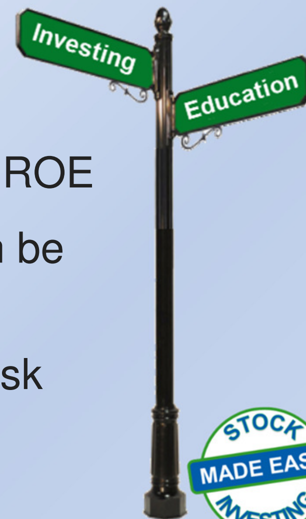
Objectives

- Learn why Return on Equity (ROE) is important
- Understand the components of ROE
- Evaluate how similar ROEs can be achieved differently
- Focus on how ROE relates to risk
- Discuss data sources



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Terminology

- Sales and Revenue
- Earnings, Profits, and Income
- Equity, Capital, Equity Capital, and Book Value

- These terms may also be preceded by “Net” or “Total”

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BETTERINVESTING SSG PLUS

Switch Tools: SSGPlus | CoreSSG

Analyze Growth and Quality | Valuation and Return | Quarterly Data | Ratios | Notes | Audit

Evaluate Management

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
% Pre-Tax Profit on Sales	6.3%	4.3%	5.0%	6.7%	5.7%	5.1%	4.9%	5.4%	5.9%	8.4%
% Return on Equity	18.0%	12.0%	15.1%	23.8%	23.0%	26.0%	25.9%	27.8%	32.5%	48.1%
% Debt To Capital	49.4%	45.9%	47.8%	49.6%	53.8%	49.7%	54.3%	54.1%	51.1%	56.2%

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ROE Formula

$$\textbf{ROE} = \frac{\text{Current Earnings Period}}{\text{Shareholders' Equity}}$$

Current Earnings Period: The company's profits

Shareholders' Equity (SE): What the company **owns** minus what the company **owes**

SE = **Assets – Liabilities**

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Home investment – Mortgage = Home Equity

Home investment	$ 100,000	=	the asset you own
Mortgage	$ 80,000	=	the liability you owe
Down payment	$ 20,000	=	the equity you have

Asset minus Liability = Equity

\$100K – \$80K = \$20K

Home Equity One Year Later

Home investment	$100,000		
Mortgage	$ 80,000	=	the liability you owe
Down payment	$ 20,000	=	the equity you have
Home Value	$ 105,000	=	the asset you own

Current Value – Investment in Home = Return

\$105,000 – \$100,000 = \$5,000

Return ÷ Equity = ROE

\$5,000 ÷ \$20,000 = 25%

Home Equity One Year Later

Home investment	$100,000		
Mortgage	$ 90,000	=	the liability you owe
Down payment	$ 10,000	=	the equity you have
Home Value	$105,000	=	the asset you own

Current Value – Investment in Home = Return

$105,000 – $100,000 = $5,000

Return ÷ Equity = ROE

$5,000 ÷ $10,000 = 50%

Home Equity Risk

Increasing debt-to-equity by borrowing can increase ROE

Is the increased debt-to-equity worth the risk?

- Higher interest rate with smaller down payment
- Higher monthly mortgage payment with smaller down payment
- Job loss, unexpected repairs, medical bills

Questions?

?

ROE Components

ROE = Profit Margin X Asset Turnover X Financial Leverage

Profit Margin	Asset Turnover	Financial Leverage
Earnings from each $ of sales	Sales from each $ of assets	Debt used to finance the assets

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ROE Components

ROE = Profit Margin X Asset Turnover X Financial Leverage

$$\text{ROE} = \frac{\text{Earnings}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Shareholders' Equity}}$$

$$\frac{\text{Income Statement}}{\text{Income Statement}} \qquad \frac{\text{Income Statement}}{\text{Balance sheet}} \qquad \frac{\text{Balance sheet}}{\text{Balance Sheet}}$$

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ROE Components

ROE = Profit Margin X Asset Turnover X Financial Leverage

$$\text{ROE} = \frac{\text{Earnings}}{\cancel{\text{Sales}}} \times \frac{\cancel{\text{Sales}}}{\cancel{\text{Assets}}} \times \frac{\cancel{\text{Assets}}}{\text{Shareholders' Equity}}$$

↑ Good

↑ Good

↑ More Risk

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Questions?

?

SSG Proxies for ROE Components

Evaluate Management	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
% Pre-Tax Profit on Sales	6.3%	4.3%	5.0%	6.7%	5.7%	5.1%	4.9%	5.4%	5.9%	8.4%
% Return on Equity	18.0%	12.0%	15.1%	23.8%	23.0%	26.0%	25.9%	27.8%	32.5%	48.1%
% Debt To Capital	49.4%	45.9%	47.8%	49.6%	53.8%	49.7%	54.3%	54.1%	51.1%	56.2%

Comparing Companies

Ticker →	MPWR	ON
Evaluate Management		
	5 Yr Avg	**5 Yr Avg**
% Pre-Tax Profit on Sales	19.7%	9.7%
% Return on Equity	16.1%	18.4%
% Debt To Capital	0.1%	48.0%

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Dividend Payout Ratio

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Switch Tools: SSGPlus | CoreSSG

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Ticker →	MPWR	ON
	G	G
Year	**% Payout**	**% Payout**
	F / C * 100	F / C * 100
2017	53.3%	0.0%
2018	50.8%	0.0%
2019	67.2%	0.0%
2020	57.1%	0.0%
2021	47.5%	0.0%
AVERAGE	**55.2%**	**0.0%**

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Comparing Companies

Ticker →	MPWR	ON
Evaluate Management		
	5 Yr Avg	**5 Yr Avg**
% Pre-Tax Profit on Sales	19.7%	9.7%
% Return on Equity	16.1%	18.4%
% Debt To Capital	0.1%	48.0%
% Asset Turnover	87%	69%

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Asset Turnover

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File Data Print Research Tools Logout

1 File Data Print Research

- BetterInvesting
- Company Website
- Analyst Estimates
- Company Summaries
- Filings and Transcripts
- Financial Statements
- 2 Key Statistics
  - 3 Finviz
  - Morningstar Key Ratios
  - Yahoo Key Statistics
- Price Charts

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https://finviz.com/

Scroll below chart to see fundamental information

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Scroll to Statements ↓

Index	S&P 500	P/E	53.61	EPS (ttm)	9.66	Insider Own	3.90%
Market Cap	24.63B	Forward P/E	37.48	EPS next Y	13.81	Insider Trans	-9.81%
Income	467.90M	PEG	2.14	EPS next Q	2.80	Inst Own	101.40%
Sales	1.87B	P/S	13.19	EPS this Y	79.10%	Inst Trans	4.58%
Book/sh	37.61	P/B	13.76	EPS next Y	15.65%	ROA	23.40%
Cash/sh	19.29	P/C	26.84	EPS next 5Y	25.00%	ROE	29.30%
Dividend	4.00	P/FCF	143.69	EPS past 5Y	27.50%	ROI	26.30%
Dividend %	0.77%	Quick Ratio	3.80	Sales past 5Y	30.70%	Gross Margin	58.30%
Employees	3247	Current Ratio	5.10	Sales Q/Q	19.40%	Oper. Margin	29.70%
Optionable	Yes	Debt/Eq	0.00	EPS Q/Q	36.90%	Profit Margin	25.10%
Shortable	Yes	LT Debt/Eq	0.00	Earnings	May 04 AMC	Payout	30.10%
Recom	1.90	SMA20	6.08%	SMA50	11.17%	SMA200	22.00%

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https://finviz.com/

annual | quarterly

income statement | balance sheet | cash flow

Period End Date		TTM	12/31/2022	12/31/2021
Period Length		12 Months	12 Months	12 Months
Total Revenue		1,867.50	1,794.15	1,207.80
Cost of Revenue		779.05	745.60	522.34
Gross Profit		1,088.45	1,048.55	685.46
Selling, General and Administrative		277.24	273.60	226.19
Research and Development		249.78	240.17	190.63
Unusual Expense/Income			8.00	6.22
Total Operating Expense		1,312.57	1,267.36	945.38
Operating Income		554.93	526.78	262.42
Interest Income Net		16.22	14.82	10.91
Other Income Net		-12.14	-16.67	-1.11
Net Income Before Taxes		559.01	524.94	272.22
Provision for Income Taxes		91.10	87.27	30.20
Net Income		467.91	437.67	242.02

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Asset Turnover - MPWR

Asset Turnover = $\frac{\text{Sales}}{\text{Assets}}$ $\frac{\text{Income Statement}}{\text{Balance Sheet}}$

Sales →

income statement | balance sheet | cash flow

Period End Date		TTM	12/31/2022	12/31/2021
Period Length		12 Months	12 Months	12 Months
Total Revenue		1,867.50	1,794.15	1,207.80

Assets →

income statement | balance sheet | cash flow

Period End Date		12/31/2022	12/31/2021
Total Assets		2,058.89	1,585.83

Asset Turnover = 1,794.15 ÷ 2,058.89 X 100 = 87%

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Target Corporation TGT

	2019	2020	2021	Q1 2022	Q2 2022	Q3 2022
Profit Margin	4.2	4.7	6.6	4	0.7	2.7
Asset Turns	1.83	1.83	1.97	0.5	0.5	0.48
Fin Lev	3.6	3.5	4.2	4.7	5	5

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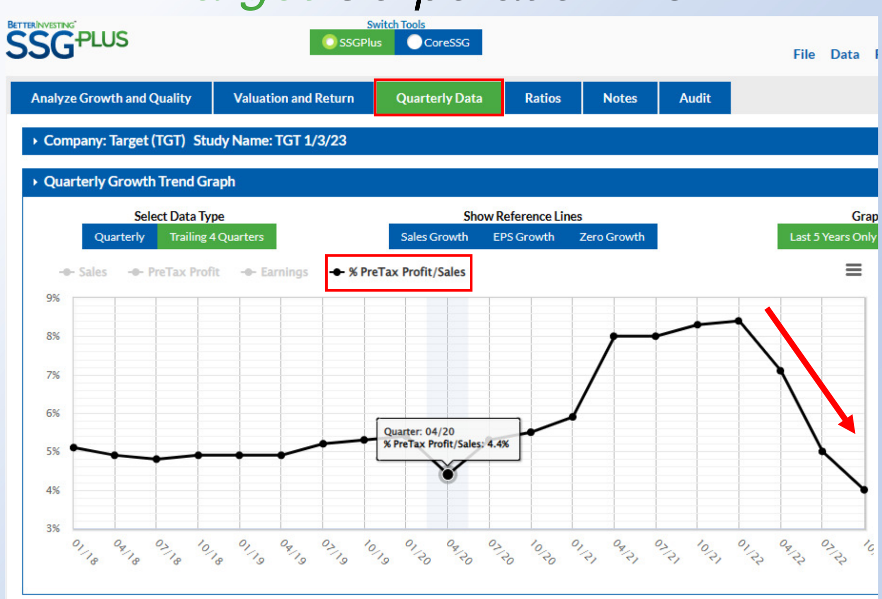
Target Corporation TGT



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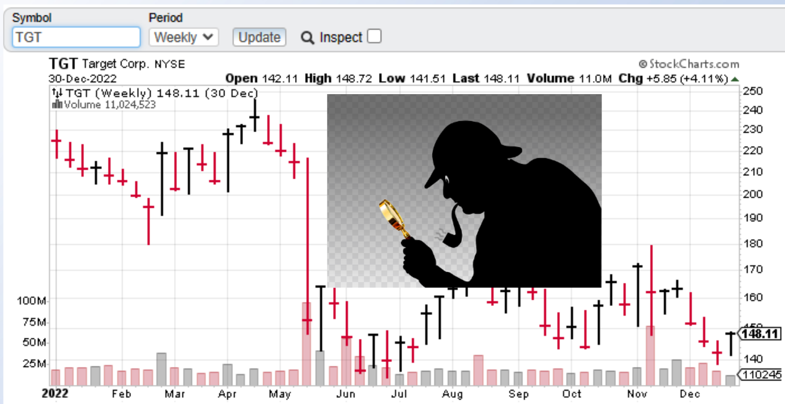
Target Corporation TGT



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Trends in PTP, ROE, and Debt

Evaluate Management	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	5 Yr Avg	Trend
% Pre-Tax Profit on Sales	9.1%	9.9%	11.4%	13.8%	13.9%	12.4%	12.7%	11.6%	9.9%	10.3%	11.4%	
% Return on Equity	16.9%	16.5%	17.1%	19.7%	17.5%	18.4%	16.3%	14.3%	13.3%	13.5%	15.2%	
% Debt To Capital	7.0%	6.5%	9.8%	5.3%	4.8%	10.0%	4.1%	16.9%	32.3%	30.5%	18.8%	

Evaluate Management	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	5 Yr Avg	Trend
% Pre-Tax Profit on Sales	34.7%	32.0%	19.8%	23.1%	25.7%	33.1%	34.7%	37.1%	42.3%	42.2%	37.9%	
% Return on Equity	28.0%	24.8%	13.2%	21.9%	30.0%	20.6%	40.8%	38.1%	45.0%	44.2%	37.7%	
% Debt To Capital	16.5%	20.1%	30.6%	42.7%	54.4%	49.7%	43.4%	37.5%	32.3%	26.9%	38.0%	

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Various Industries

Company	ROE	Pre-tax Profit on Sales	Asset Turnover	Debt to Capital
Costco	27%	3%	365%	33%
Ford	10%	3%	62%	80%
Visa	38%	64%	35%	36%
Apple	98%	27%	110%	61%
AMD	31%	10%	35%	18%
Qualcomm	80%	24%	88%	70%

Low profitability, high asset turns, fairly low debt
Low profitability, medium asset turns, high debt
High profitability, low asset turns, fairly low debt
Medium profitability, high asset turns, medium debt
Low profitability, low asset turns, low debt
Medium profitability, high asset turns, high debt

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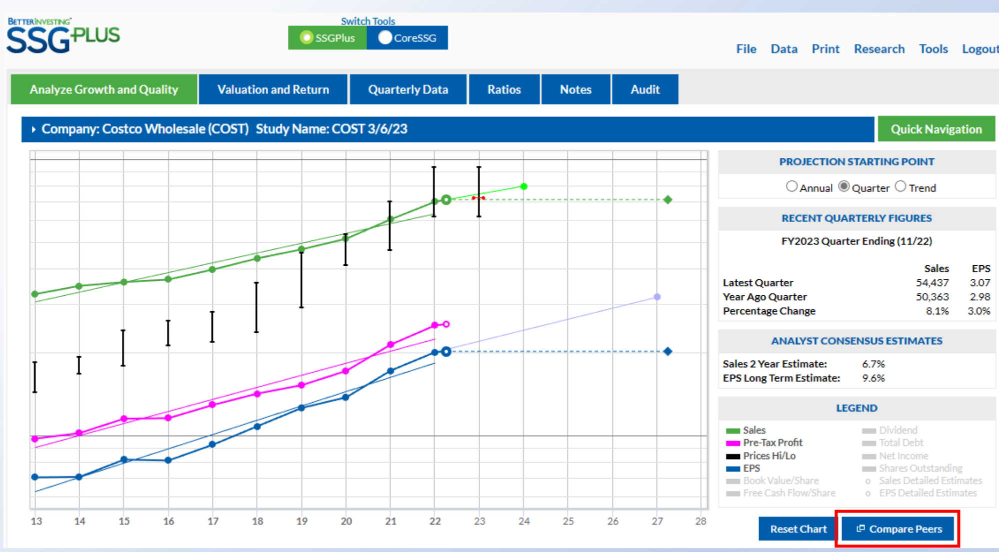
Compare Competitors



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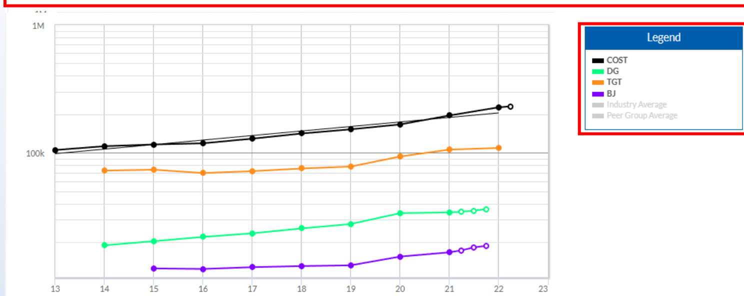
Compare Competitors

Compare Peers

Enter Peer Ticker(s): DG - Dollar Gen | TGT - Target | BJ - BJ's Wholesale Club | Update Study

Historical Sales | Historical EPS | Historical PTP | % PTP on Sales | % Return On Equity | % Debt To Capital | High P/E | Low P/E | % Payout



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth (%)
Costco Wholesale (COST)	105,156	112,640	116,199	118,719	129,025	141,576	152,703	166,761	195,929	226,954	8.5%
Dollar Gen (DG)	17,504	18,910	20,369	21,987	23,471	25,625	27,754	33,747	34,220	---	9.0%
Target (TGT)	72,596	72,618	73,785	69,495	71,879	75,356	78,112	93,561	106,005	109,120	4.9%
BJ's Wholesale Club (BJ)	---	---	12,468	12,351	12,755	13,007	13,191	15,430	16,667	---	4.9%
Peer Group Average	358,486	364,035	350,068	351,181	359,825	367,917	372,814	392,816	399,007	---	1.4%
Industry Average	354,289	359,790	345,914	346,951	355,502	363,542	368,388	387,956	394,291	---	1.4%

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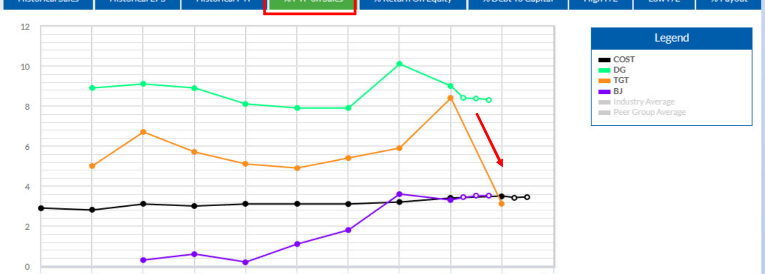
Compare Competitors

Compare Peers

Enter Peer Ticker(s): DG - Dollar Gen | TGT - Target | BJ - BJ's Wholesale Club | Update Study

Historical Sales | Historical EPS | Historical PTP | % PTP on Sales | % Return On Equity | % Debt To Capital | High P/E | Low P/E | % Payout



% Pre-Tax Profit On Sales

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	5 Yr Avg
Costco Wholesale (COST)	2.9%	2.8%	3.1%	3.0%	3.1%	3.1%	3.1%	3.2%	3.4%	3.5%	3.3%
Dollar Gen (DG)	9.3%	8.9%	9.1%	8.9%	8.1%	7.9%	7.9%	10.1%	9.0%	---	8.7%
Target (TGT)	4.3%	5.0%	6.7%	5.7%	5.1%	4.9%	5.4%	5.9%	8.4%	3.1%	5.5%
BJ's Wholesale Club (BJ)	---	---	0.3%	0.6%	0.2%	1.1%	1.8%	3.6%	3.3%	---	2.5%
Peer Group Average	4.9%	4.9%	4.5%	4.3%	3.9%	2.9%	4.0%	4.2%	4.4%	---	3.9%
Industry Average	4.9%	4.9%	4.5%	4.3%	3.9%	2.9%	4.0%	4.2%	4.4%	---	3.9%

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Summary

- Companies within the same industry or in different industries can have a similar ROE.
- The 3 components that produce the ROE can vary significantly
- Study the component values over time and compare competitors
- Understanding the components will hopefully help you make better investment decisions
- Reference: Analysis For Financial Management Robert C. Higgins

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