

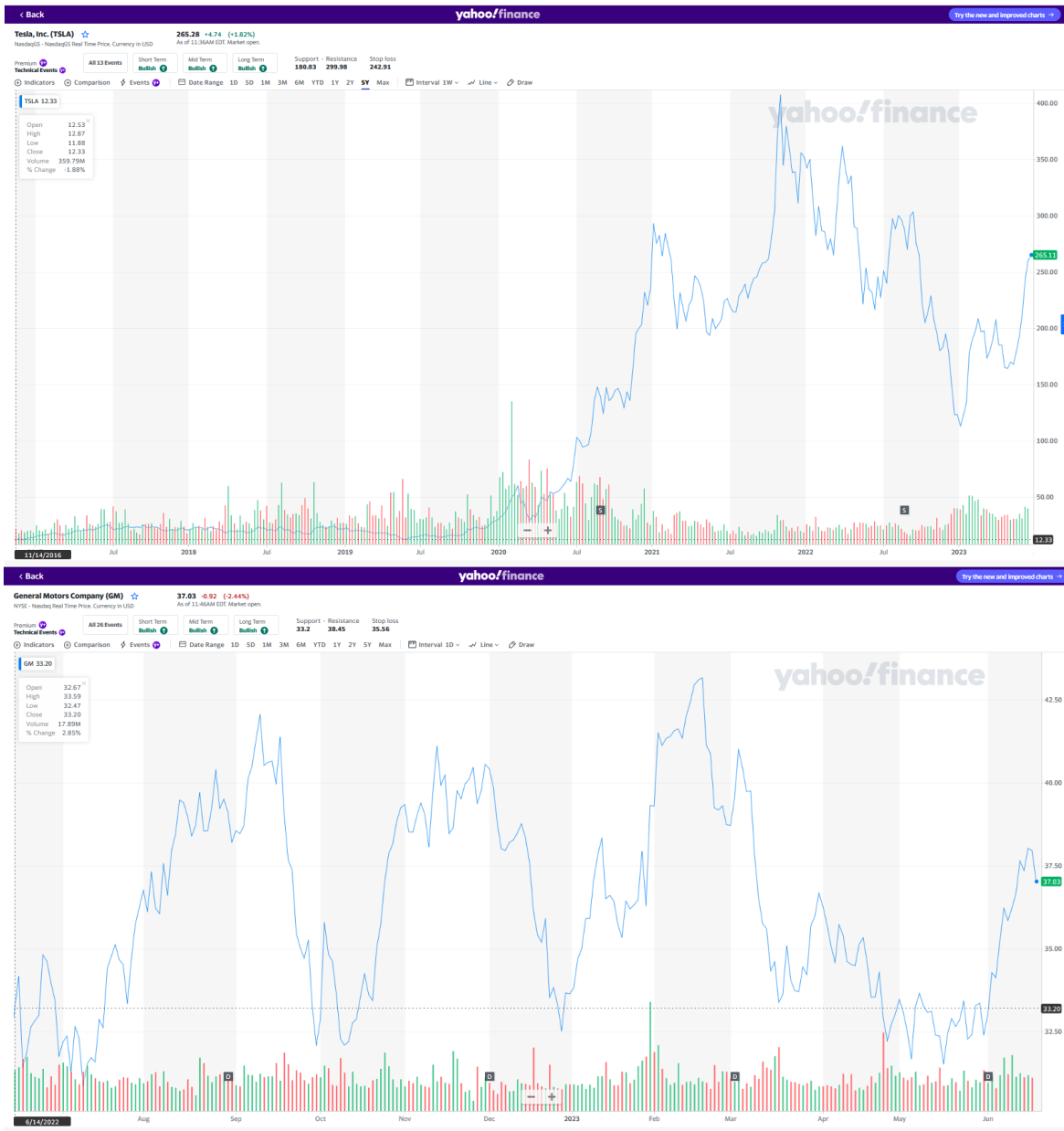
# Chapter 3: Financial Statements and Ratio Analysis

Fundamental Question:

=>

Key =>

Example: Do financial statements for GM and Tesla give us any clue why over the past 5 years Tesla's stock rose 2050% (12.33 to 265.11) while GM's stock only rose 12% (33.02 to 37.06)? Note: Graphs below have embedded links to Yahoo Finance graphs.



=> see separate financial statements and complete 10k filings on my website and Canvas

## 2.1 Mandatory Financial Reports of Public Companies

Key issues mentioned in the textbook:

- => role of financial statements
- => importance of GAAP
- => role of auditors
- => impact of Sarbanes-Oxley Act of 2002
- => role of SEC

### A. Letter to stockholders

=> management gives their view of what the firm is doing

### B. The Four Key Financial Statements

#### 1. Income Statement

Key issues:

- => based on firm's fiscal year rather than calendar year  
Note: for many firms: fiscal year = calendar year.
- => shows accounting revenues, expenses, and profit for year (or quarter)

Notes:

- 1)
- 2)
- 3) In Figure 1, we can see that cash flows and profit tend to move together but not perfectly. The data I used includes all firms in the S&P 1500 for years 2010 - 2020. I divide both by total assets of the firms so the graph is less affected by the size of the firms.
- 4) Chapter 1 mentions this.

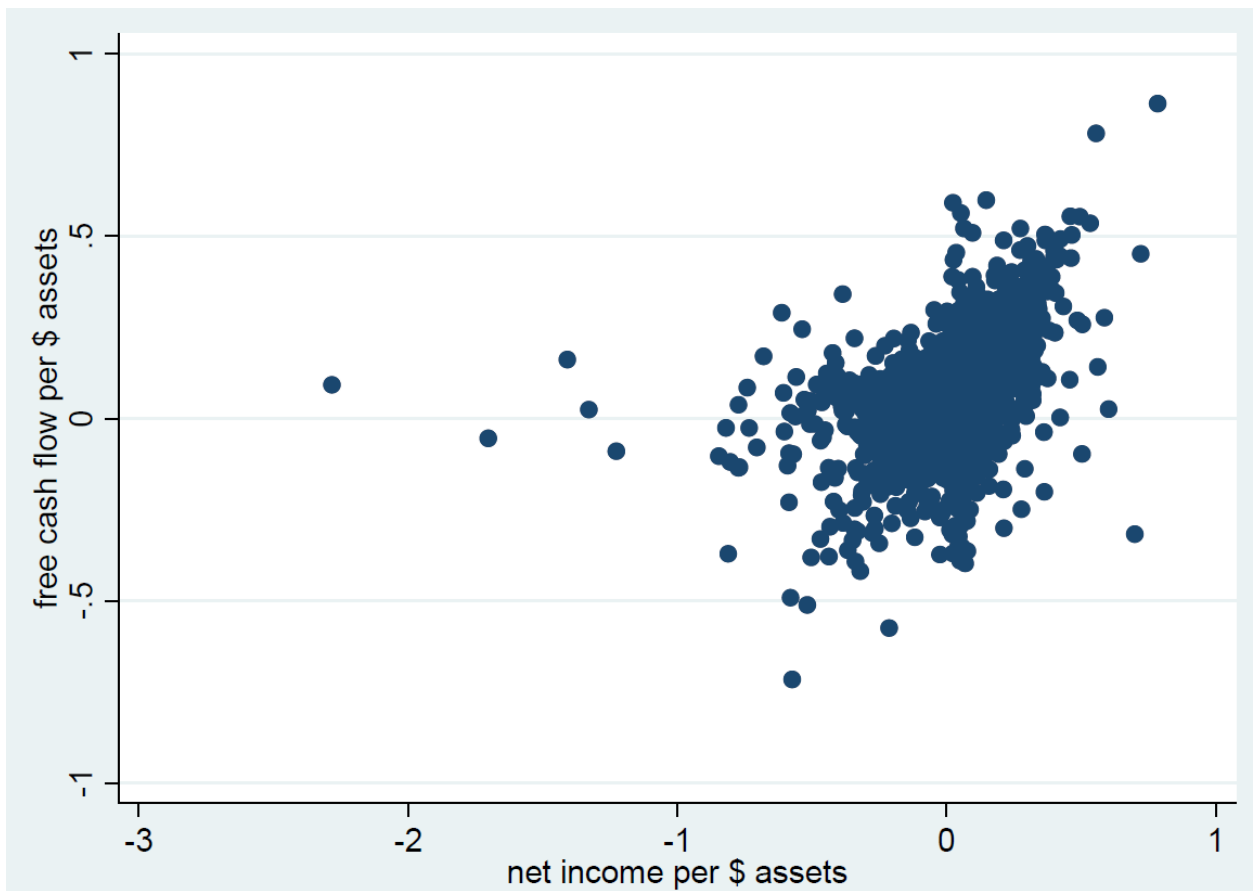


Figure 1

## 2. Balance Sheet

Key issues:

=>

=> those who provided financing now have claims against the firm

=> assets are listed in order from most to least liquid (ease with which can convert to cash)

=> liabilities are listed in the order in which must be paid

Q: The book value of a company's assets and equity do not usually equal the market value of those assets and equity. What are some reasons for this difference?

## 3. Statement of Retained Earnings

=>

## 4. The Statement of Cash Flows

Key issues:

=> categorizes cash flows as operating cash flow, investment cash flow, and financing cash flow.

=> you will study cash flow in more detail in FIN 5360

## 5. Notes to financial statements

I once heard that the footnotes are the most important part of a firm's financial statements

Q: Why are footnotes important?

Investopedia Article on Footnotes: [Link](#)

## 3.2 Using Financial Ratios

=>

Note: Ratios don't tell us much by themselves. Analysts usually make two types of comparisons.

A. Types of Comparisons.

1)

Notes:

- 1) called cross-sectional analysis
- 2) I am getting my industry benchmarks from RMA Annual Statement studies through the Baylor Library.  
Link: <https://libguides.baylor.edu/az.php?q=rma>
- 3) RMA gives 3 numbers: Upper = upper quartile; Median = median; Lower = bottom quartile
- 4) Should calculate ratios the same way industry ratios calculated. RMA calculates some ratios not in our textbook or calculates ratios slightly differently from our textbook. Because our time is extremely limited, I am not going to cover additional ratios not in our text and will calculate ratios the same way as the textbook.

2)

Note: called time-series analysis

=>

=> won't know if trend away from peers is good or bad without digging further

3.3. Liquidity Ratios

=>

=> vital for avoiding bankruptcy

Key => more liquidity is safer and allows more flexibility in decisions, but results in a lower return

Note: Liquidity from current assets is likely not as important as liquidity from the ability to

=> Ex. Lines of credit at a bank.

## A. Current Ratio

=&gt;

$$CR = \frac{CA}{CL} \quad (3.1)$$

where:

$CR$  = current ratio  
 $CA$  = current assets  
 $CL$  = current liabilities

## Ex. Tesla and GM

$$\text{Tesla: } 2022 = 1.53 = \frac{40,917}{26,709}; \quad 2021 = 1.38 = \frac{27,100}{19,705}$$

$$\text{GM: } 2022 = 1.10 = \frac{100,451}{91,173}; \quad 2021 = 1.10 = \frac{82,103}{74,408}$$

Note: I don't see much benefit from making you write down all the numbers for these ratios, but I recommend checking to see if you can find all these numbers in the financial statements for GM and Tesla on my website (and Canvas).

Graph of current ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): 2.4; 1.3; 0.9

Notes on current ratio:

## B. Quick Ratio

=> ability to meet short-term obligations with current assets excluding inventory

Notes:

1)

2) also called acid-test ratio

$$QR = \frac{CA - Inv}{CL} \quad (3.2)$$

where:

$QR$  = quick ratio

$CA$  = current assets

$Inv$  = inventory

$CL$  = current liabilities

## Ex. Tesla and GM

$$\text{Tesla: } 2022 = 1.05 = \frac{40,917 - 12,839}{26,709}; \quad 2021 = 1.08 = \frac{27,100 - 5757}{19,705}$$

$$\text{GM: } 2022 = 0.93 = \frac{100,451 - 15,366}{91,173}; \quad 2021 = 1.10 = \frac{82,103 - 12,988}{74,408}$$

Graph of quick ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): 0.9; 0.5; 0.2

=> both above typical firm in industry

=>

## 3.4 Activity Ratios

=&gt;

## A. Inventory Turnover

=&gt;

$$IT = \frac{COGS}{I} \quad (3.3)$$

where:

$IT$  = inventory turnover  
 $COGS$  = cost of goods sold  
 $I$  = inventory

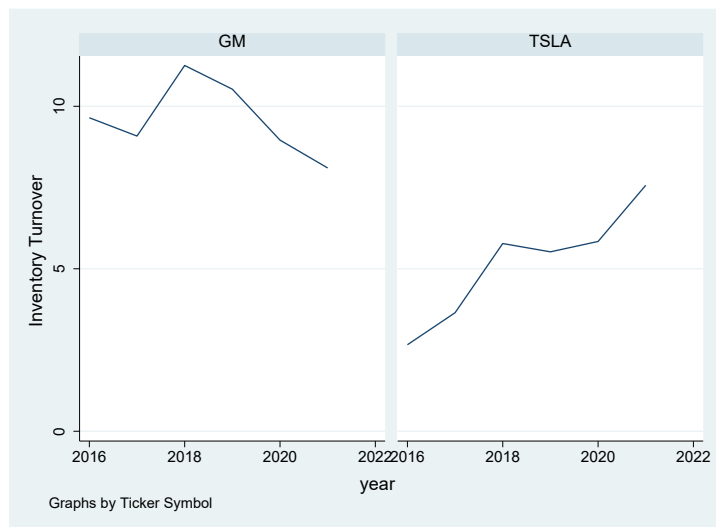
## Ex. Tesla and GM

$$\text{Tesla: } 2022 = 4.72 = \frac{60,609}{12,839}; \quad 2021 = 6.98 = \frac{40,217}{5,757}$$

$$\text{GM: } 2022 = 8.26 = \frac{126,892}{15,366}; \quad 2021 = 7.74 = \frac{100,544}{12,988}$$

Note: For GM counting “Automotive and other cost of sales”

Inventory turnover ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): 8.7; 4.0; 2.4



## B. Average Age of Inventory

=&gt;

$$AAI = \frac{365}{IT} \quad (3.4)$$

where:

AAI = average age of inventory  
 IT = inventory turnover

## Ex. Tesla and GM

$$\begin{aligned} \text{Tesla: } 2022 &= 77.3 = \frac{365}{4.72}; \quad 2021 = 52.2 = \frac{365}{6.98} \\ \text{GM: } 2022 &= 44.2 = \frac{365}{8.26}; \quad 2021 = 47.1 = \frac{365}{7.74} \end{aligned}$$

Industry benchmarks (upper; median; lower): 41.9; 91.3; 152.1

=&gt;

## C. Average Collection Period

=&gt;

$$ACP = \frac{AR}{ASD} \quad (3.5)$$

where:

ACP = average collection period  
 AR = accounts receivable  
 ASD = average sales per day = sales/365

Q: Is an ACP of 30 days long or short?

Key comparison:

## Ex. Tesla and GM

ASD (millions)

$$\text{Tesla: } 2022 = 223.2 = \frac{81,462}{365}; \quad 2021 = 147.5 = \frac{53,823}{365}$$

$$\text{GM: } 2022 = 429.4 = \frac{156,735}{365}; \quad 2021 = 348 = \frac{127,004}{365}$$

Notes:

- 1) Counting total revenues for both
- 2) Tesla's sales per day grew 51% between 2021 and 2022 while GM's grew 23%. If these growth rates for this one year continue into the future, Tesla will catch GM's sales per day in a bit over 3 years.

ACP

$$\text{Tesla: } 2022 = 13.2 = \frac{2952}{223.2}; \quad 2021 = 13 = \frac{1913}{147.5}$$

$$\text{GM: } 2022 = 31.0 = \frac{13,333}{429.4}; \quad 2021 = 21.2 = \frac{7394}{348}$$

Note: for GM, counting "Accounts and notes receivable"

Average Collection Period for 2016 - 2021:



Industry benchmarks (upper; median; lower): 16.4; 26.2; 45.1

Compared to typical firm:

D. Average Payment Period

=>

$$APP = \frac{AP}{APD} \quad (3.6)$$

where:

*APP* = average payment period

*AP* = accounts payable

*APD* = average purchases per day = annual purchases/365

Note:

=> textbook assumes 90% in its Target example but gives no rationale.

## Ex. Tesla and GM

APD (millions)

$$\text{Tesla: } 2022 = 166.1 = \frac{60,609}{365}; \quad 2021 = 110.2 = \frac{40,217}{365}$$

$$\text{GM: } 2022 = 347.6 = \frac{126,892}{365}; \quad 2021 = 275.5 = \frac{100,544}{365}$$

APP

$$\text{Tesla: } 2022 = 91.9 = \frac{15,255}{166.1}; \quad 2021 = 91 = \frac{10,025}{110.2}$$

$$\text{GM: } 2022 = 79.1 = \frac{27,486}{347.6}; \quad 2021 = 74.0 = \frac{20,391}{275.5}$$

Average Payment Period for 2016 - 2021:



Industry benchmarks (upper; median; lower): 17.2; 38.8; 70.2

=Compared to typical firm:

## E. Total Asset Turnover

=> dollars of sales per dollar invested in assets

=>

$$TAT = \frac{S}{TA} \quad (3.7)$$

where:

$TAT$  = total asset turnover

$S$  = Sales

$TA$  = total assets

## Ex. Tesla and GM

$$\begin{aligned} \text{Tesla: } 2022 &= 0.99 = \frac{81,462}{82,338}; & 2021 &= 0.87 = \frac{53,823}{62,131} \\ \text{GM: } 2022 &= 0.59 = \frac{156,735}{264,037}; & 2021 &= 0.52 = \frac{127,004}{244,718} \end{aligned}$$

Total turnover ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): 3.2; 1.9; 1.2

=>

## 3.5 Debt Ratios

## A. Degree of Indebtedness

=> extent to which firm relies on debt financing

1. Debt Ratio

=>

$$DR = \frac{TL}{TA} \tag{3.8}$$

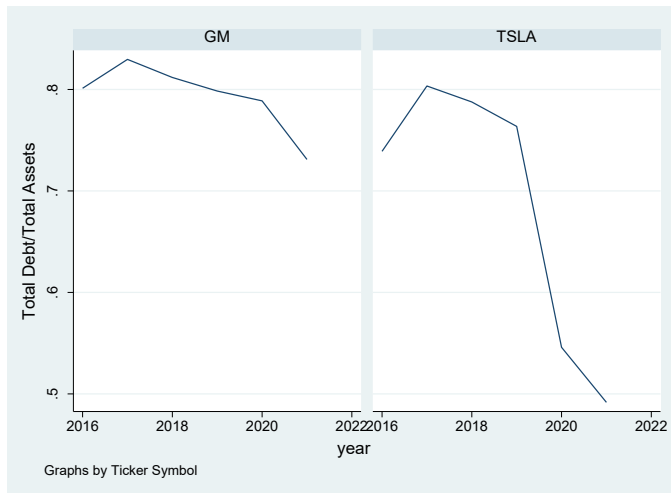
where:

DR = debt ratio  
 TL = total liabilities  
 TA = total assets

Ex. Tesla and GM

$$\begin{aligned} \text{Tesla: } 2022 &= 0.44 = \frac{36,440}{82,338}; & 2021 &= 0.49 = \frac{30,548}{62,131} \\ \text{GM: } 2022 &= 0.73 = \frac{191,752}{264,037}; & 2021 &= 0.73 = \frac{178,903}{244,718} \end{aligned}$$

Debt ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): 0.62; 0.84; 1.18

Tesla Leverage =>

GM Leverage =>

## 2. Debt-to-Equity Ratio

$$DE = \frac{TL}{CSE} \quad (3.9)$$

=> ratio of debt to equity

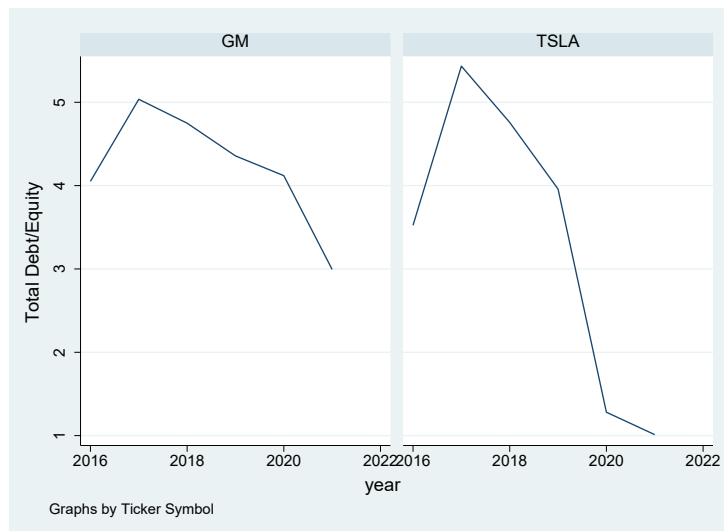
where:

DE = debt-to-equity ratio  
 TL = total liabilities  
 CSE = common stock equity

Ex. Tesla and GM

$$\begin{aligned} \text{Tesla: } 2022 &= 0.82 = \frac{36,440}{44,704}; & 2021 &= 1.01 = \frac{30,548}{30,189} \\ \text{GM: } 2022 &= 2.67 = \frac{191,752}{71,927}; & 2021 &= 2.72 = \frac{178,903}{65,815} \end{aligned}$$

Debt-to-equity ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): 1.6; 5.1; -6.5

## B. Coverage Ratios

=> ability of firm to service debt

### 1. Times Interest Earned Ratio

=>

$$TIE = \frac{EBIT}{IE} \quad (3.10)$$

where:

$TIE$  = times interest earned

$EBIT$  = earnings before interest and taxes

$IE$  = interest expense

Notes:

1) if less than 1, can't meet interest expense with earnings

2)

3)

=>



## Ex. Tesla and GM

EBIT: Earnings Before Taxes + Interest Expense

$$\text{Tesla: } 2022 = 13,910 = 13,719 + 191; \quad 2021 = 6714 = 6343 + 371$$

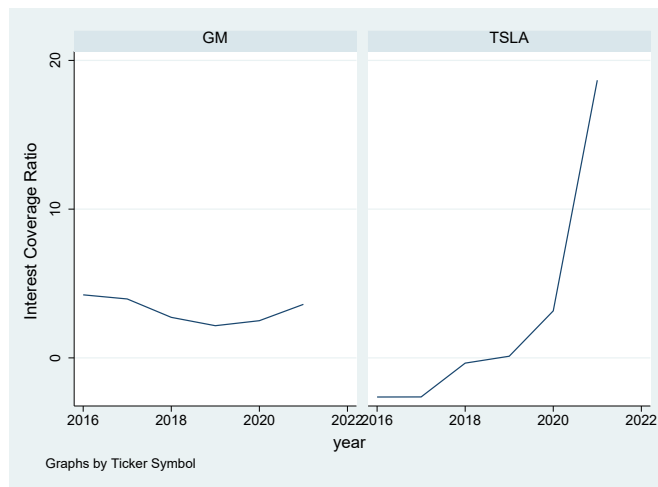
$$\text{GM: } 2022 = 12,584 = 11,597 + 987; \quad 2021 = 13,666 = 12,716 + 950$$

TIE:

$$\text{Tesla: } 2022 = 72.8 = \frac{13,910}{191}; \quad 2021 = 18.09 = \frac{6714}{371}$$

$$\text{GM: } 2022 = 12.75 = \frac{12,584}{987}; \quad 2021 = 14.39 = \frac{13,666}{950}$$

Times interest earned ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): 14.6; 2.2; -2.1

=&gt;

## 2. Fixed-Payment Coverage Ratio

=>

=> fixed payments include interest, principal, lease payments and preferred dividends

$$FPCR = \frac{EBIT+LP}{IE+LP+\{(PP+PSD)\times[1/(1-T)]\}} \quad (3.11)$$

Where:

- FPCR = fixed-payment coverage ratio
- EBIT = earnings before interest and taxes
- LP = lease payments
- IE = interest expense
- PP = principal payments
- PSD = preferred stock dividends
- T = corporate tax rate

Note: interest and lease payments paid with pre-tax dollars while principal and preferred stock dividends paid with after-tax dollars

Ex. Tesla and GM

$$\begin{aligned} \text{Tesla: } 2022 &= 9.83 = \frac{13,910+1363}{191+1363}; & 2021 &= 5.22 = \frac{6714+1131}{371+1131} \\ \text{GM: } 2022 &= 0.27 = \frac{12,584+314}{987+314+\left(\frac{39,606}{1.163}\right)}; & 2021 &= 0.22 = \frac{13,666+301}{950+301+\left(\frac{47,806}{1.218}\right)} \end{aligned}$$

Notes for Tesla:

- 1) discusses lease payments in note 12 and debt in note 11.
- 2) lease payments were \$1363 in 2022 and \$1131 in \$2021.
- 3) Some Tesla bonds converted to stock in 2022. The firm has debt of over \$1 billion maturing in 2023 but repaid some of it early in 2022.
- 4) Effective tax rate in 2022 was 8% and in 2021 was 11%. See Note 7 (p. 41).
- 5) PP = 0 since I could not find required debt repayments in 2022 or 2021. PSD = 0 since Tesla has no outstanding preferred stock.

Notes for GM:

- 1) GM discusses lease payments in Note 7 and debt in Note 13.
- 2) lease payments were \$314 in 2022 and \$301 in 2021. I used "Payments for operating leases included in Net cash provided by(used in) operating activities" for lease payments.
- 3) Principal payments: Statement of cash flows shows payments on debt of \$39,606 in 2022 and \$47,806 in 2021. This might not all be principal.
- 4) Effective tax rate was 16.3% in 2022 and 21.8% in 2021. See Note 7 (p. 28).
- 5) No outstanding preferred stock.

## 3.6. Profitability Ratios

=> assess the firm's profitability

## A. Common-Size Income Statements

=&gt;

=&gt; easier to compare to other firms or across time

## B. Gross Profit Margin

=&gt;

$$GPM = \frac{GP}{S} \quad (3.12)$$

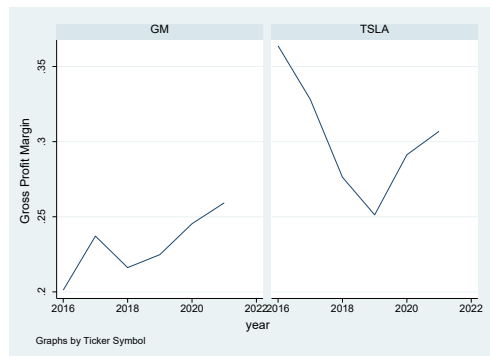
where:

 $GPM$  = gross profit margin $GP$  = gross profit =  $S - COGS$  $S$  = sales $COGS$  = cost of goods sold

## Ex. Tesla and GM

$$\begin{aligned} \text{Tesla: } 2022 &= 0.256 = \frac{(81,462 - 60,609)}{81,462}; \quad 2021 = 0.253 = \frac{(53,823 - 40,217)}{53,831} \\ \text{GM: } 2022 &= 0.190 = \frac{(156,735 - 126,892)}{156,735}; \quad 2021 = 0.208 = \frac{(127,004 - 100,544)}{127,004} \end{aligned}$$

Gross profit ratios for 2016 - 2021:



Industry benchmarks (Average): 0.26

=&gt;

## C. Operating Profit Margin

=> ability to sell product for more than all costs and expenses except

$$OPM = \frac{OP}{S} \quad (3.13)$$

where:

$OPM$  = operating profit margin

$OP$  = operating profit = gross profit less operating expenses = EBIT

$S$  = sales

Notes:

1) subtract all expenses except interest, taxes, and preferred stock dividends

2) OP is earnings before interest and taxes and preferred dividends just like EBIT

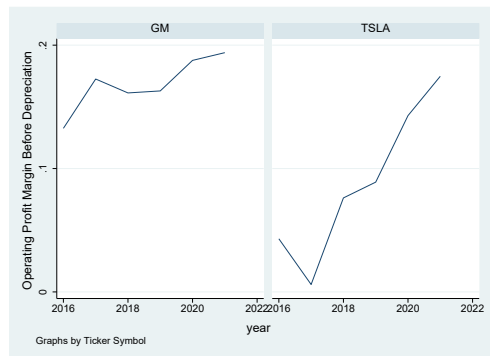
## Ex. Tesla and GM

Note: Using EBIT from calculation of TIE in section 3.5.B.1

$$\text{Tesla: } 2022 = 0.171 = \frac{13,910}{81,462}; \quad 2021 = 0.125 = \frac{6714}{53,823}$$

$$\text{GM: } 2022 = 0.080 = \frac{12,584}{156,735}; \quad 2021 = 0.108 = \frac{13,666}{127,004}$$

Operating profit ratios for 2016 - 2021:



Industry benchmarks (Average): 0.002

=>

## D. Net Profit Margin

=&gt;

$$NPM = \frac{EACS}{S} \quad (3.14)$$

where:

 $NPM$  = net profit margin

EACS = earnings available to common stockholders

 $S$  = sales

## Ex. Tesla and GM

Note: Using EBIT from calculation of TIE in section 3.5.B.1

$$\text{Tesla: } 2022 = 0.154 = \frac{12,556}{81,462}; \quad 2021 = 0.103 = \frac{5,519}{53,823}$$

$$\text{GM: } 2022 = 0.057 = \frac{8,915}{156,735}; \quad 2021 = 0.077 = \frac{9,837}{127,004}$$

Net profit margin ratios for 2016 - 2021:



Note: No industry net profit margin information on RMA Annual Statement Studies

## E. Earnings Per Share

=> earnings per share of common stock

$$EPS = \frac{EACS}{CSO} \quad (3.15)$$

where:

EPS = earnings per share

EACS = earnings available to common stockholders

CSO = number of common shares outstanding

Notes:

1) not helpful for comparing across companies

=>

2) must be careful when comparing a firm over time if it has issued or repurchased shares.

Ex. Tesla and GM

$$\begin{aligned} \text{Tesla: } 2022 &= 4.02 = \frac{12,556}{3130}; \quad 2021 = 1.87 = \frac{5519}{2959} \\ \text{GM: } 2022 &= 6.17 = \frac{8915}{1445}; \quad 2021 = 6.78 = \frac{9837}{1451} \end{aligned}$$

Note: Both Tesla and GM report diluted EPS because both have outstanding securities that can be converted into common stock.

## F. Return on Total Assets (ROA)

=>

$$ROA = \frac{EACS}{TA} \quad (3.16)$$

where:

ROA = return on assets

EACS = earnings available to common stockholders

TA = total assets

## Ex. Tesla and GM

Note: Using EACS from calculation of EPS in previous section

$$\text{Tesla: } 2022 = 0.152 = \frac{12,556}{82,338}; \quad 2021 = 0.089 = \frac{5519}{62,131}$$

$$\text{GM: } 2022 = 0.034 = \frac{8915}{264,037}; \quad 2021 = 0.040 = \frac{9837}{244,718}$$

Return on Assets ratios for 2016 - 2021:



Industry benchmarks (upper; median; lower): .091; .038; -.10

Note: RMA uses profit before taxes rather than EACS so not exactly comparable.

ROA using profit before taxes so comparable to RMA:

$$\text{Tesla: } 2022 = 0.167 = \frac{13,719}{82,338}; \quad 2021 = 0.102 = \frac{6343}{62,131}$$

$$\text{GM: } 2022 = 0.044 = \frac{11,597}{264,037}; \quad 2021 = 0.052 = \frac{12,716}{244,718}$$

## G. Return on Equity

=> earnings relative to equity invested in the firm

$$ROE = \frac{EACS}{CSE} \quad (3.17)$$

where:

*ROE* = return on equity

EACS = earnings available to common stockholders

CSE = common stock equity

## Ex. Tesla and GM

$$\text{Tesla: } 2022 = 0.281 = \frac{12,556}{44,704}; \quad 2021 = 0.183 = \frac{5519}{30,189}$$

$$\text{GM: } 2022 = 0.124 = \frac{8915}{71,927}; \quad 2021 = 0.149 = \frac{9837}{65,815}$$



Industry benchmarks (upper; median; lower): .579; .302; .016

Note: RMA uses profit before taxes rather than EACS so not exactly comparable.

ROE using profit before taxes so comparable to RMA:

$$\text{Tesla: } 2022 = 0.307 = \frac{13,719}{44,704}; \quad 2021 = 0.210 = \frac{6343}{30,189}$$

$$\text{GM: } 2022 = 0.161 = \frac{11,597}{71,926}; \quad 2021 = 0.193 = \frac{12,716}{65,815}$$

=>

## 3.7 Market Ratios

=>

=>

=>

Market prices (Yahoo Finance):

12/30/2022: TSLA = 123.18; GM = 33.64;

12/31/2021: 12/30/2022: TSLA = 352.26; GM = 58.63;



## A. Price/Earnings (P/E) Ratio

=&gt;

$$PE = \frac{MPS}{EPS} \quad (3.18)$$

where:

 $PE$  = price-earnings ratio

MPS = market price per share

EPS = earnings per share (see eq. 3.15)

## Ex. Tesla and GM

Note: Using EPS from section 3.6.E

$$\text{Tesla: } 2022 = 30.7 = \frac{123.18}{4.01}; \quad 2021 = 188.9 = \frac{352.26}{1.87}$$

$$\text{GM: } 2022 = 5.5 = \frac{33.64}{6.17}; \quad 2021 = 8.6 = \frac{58.63}{6.78}$$

PE Ratios for 2016 - 2021:



## B. Market-to-Book (M/B) Ratio

=&gt;

$$1. MB = \frac{MPS}{BVPS} \quad (3.20)$$

where:

 $MB$  = market-to-book ratio

MPS = market price per share

BVPS = book value per share

$$2. BVPS = \frac{CSE}{CSO} \quad (3.19)$$

where:

BVPS = book value per share

CSE = common stock equity

CSO = number of common shares outstanding

## Ex. Tesla and GM

Book Value per Share:

$$\text{Tesla: } 2022 = 14.3 = \frac{44,704}{3130}; \quad 2021 = 10.2 = \frac{30,189}{2959};$$

$$\text{GM: } 2022 = 49.8 = \frac{71,927}{1445}; \quad 2021 = 45.4 = \frac{65,815}{1451};$$

Market-to-book:

$$\text{Tesla: } 2022 = 8.6 = \frac{123.18}{14.3}; \quad 2021 = 34.5 = \frac{352.26}{10.2}$$

$$\text{GM: } 2022 = 0.68 = \frac{33.64}{49.8}; \quad 2021 = 1.29 = \frac{58.63}{45.4}$$

MB Ratios for 2016 - 2021:



=&gt; market ratios higher for Tesla than for GM

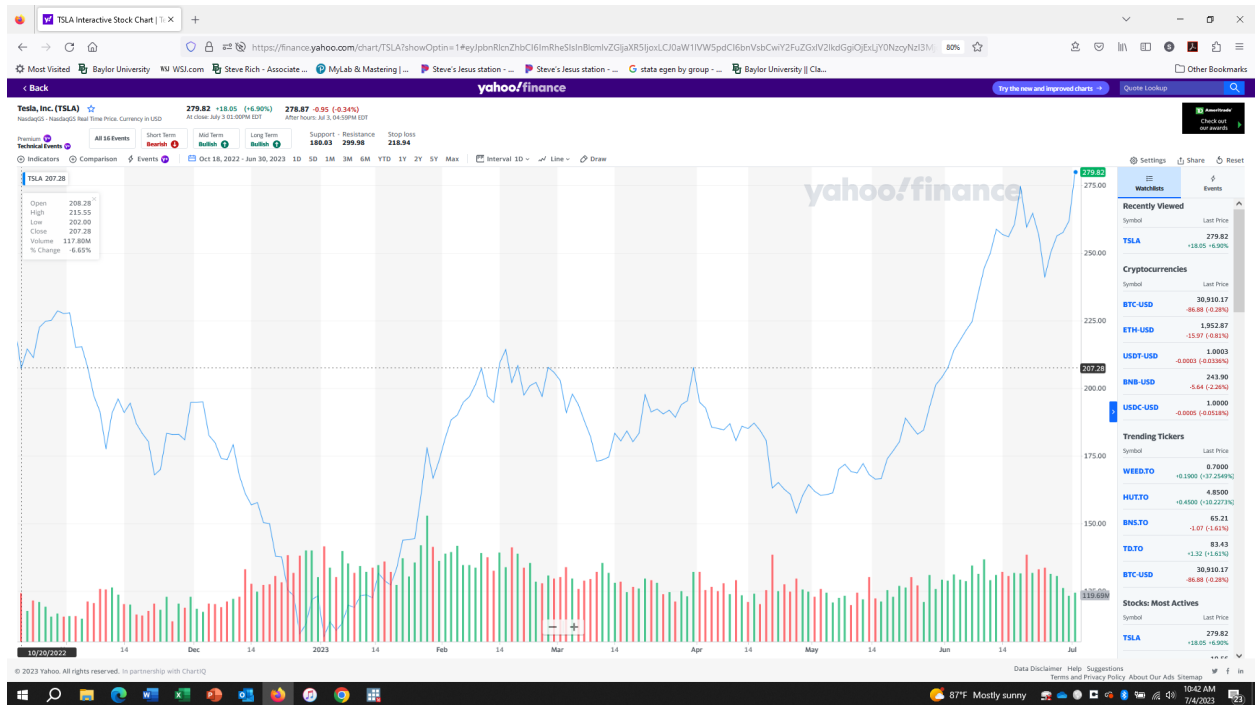
=&gt;

- Q: Why did market-to-book and PE ratios fall for Tesla in 2022?
- => market price fell 65% (\$352.26 to \$123.18)
  - => EPS rose 114% (1.87 to 4.01)
  - => Book value per share rose 40% (10.2 to 14.3)

Q: What happened in 2022?

- 1) Tesla investors became worried when Elon Musk got distracted by Twitter.

Tesla stock price since Elon Musk acquired Twitter on 10/27/2022



2) Competition coming in EV market:

May 2023 article: <https://www.thestreet.com/electric-vehicles/tesla-rival-subaru-launching-new-electric-vehicles>

Note: investors look ahead.

October 2022 article: <https://www.globenewswire.com/en/news-release/2022/10/24/2539698/0/en/Latest-Global-Electric-Vehicle-Market-Size-Share-Worth-USD-1105-Billion-by-2030-at-a-23-CAGR-Custom-Market-Insights-Analysis-Growth-Leaders-Report-Trends-Forecast-Segmentation.html>

## 3.8 A Complete Ratio Analysis

## A. DuPont System of Analysis

## 1. DuPont Formula

=> breaks return on assets into two components:

$$ROA = \frac{EACS}{TA} = \frac{EACS}{S} \times \frac{S}{TA} = NPM \times TAT \quad (3.A)$$

where:

$EACS$  = earnings available to common stockholders

$S$  = sales

$TA$  = total assets

$NPM$  = net profit margin

$TAT$  = total asset turnover

## Ex. Tesla and GM

Tesla:

$$2022 = 0.152 = \frac{12,556}{82,338} = .154 \times .99$$

$$2021 = 0.089 = \frac{5519}{62,131} = .103 \times 0.87$$

GM:

$$2022 = 0.034 = \frac{8915}{264,037} = 0.057 \times 0.59$$

$$2021 = 0.040 = \frac{9837}{244,718} = 0.077 \times 0.52$$

## 2. Modified DuPont Formula

$$ROE = \frac{EACS}{S} \times \frac{S}{TA} \times \frac{TA}{CSE} = NPM \times TAT \times FLM = ROA \times FLM \quad (3.B)$$

=> breaks return on equity into three components:

where:

$$FLM = \text{financial leverage multiplier} = \frac{TA}{CSE} \quad (3.21)$$

=> ratio of total assets to common stock equity

EACS = earnings available to common stockholders

S = sales

TA = total assets

NPM = net profit margin

TAT = total asset turnover

## Ex. Tesla and GM

FLM:

$$\text{Tesla: } 2022 = 1.84 = \frac{82,338}{44,704}; \quad 2021 = 2.06 = \frac{62,131}{30,189}$$

$$\text{GM: Tesla: } 2022 = 3.67 = \frac{264,037}{71,927}; \quad 2021 = 3.72 = \frac{244,718}{65,815}$$

ROE:

Tesla:

$$2022 = 0.281 = \frac{12,556}{44,704} = 0.154 \times 0.898 \times 1.84$$

$$2021 = 0.183 = \frac{5519}{30,189} = 0.103 \times 0.866 \times 2.06$$

GM:

$$2022 = 0.124 = \frac{8915}{71,926} = 0.057 \times 0.593 \times 3.67$$

$$2021 = 0.149 = \frac{9837}{65,815} = 0.077 \times 0.519 \times 3.72$$

3.A Conclusions (Tesla vs GM):

- 1)
- 2)
- 3)
- 4)
- 5)

However: GM turns over its inventory faster and has lower age of inventory

Unclear what means: Tesla pays its suppliers slower

=>

Note: Tesla's investors seem to have recovered from fears that Elon Musk will be distracted by Twitter.