Analyzing Companies

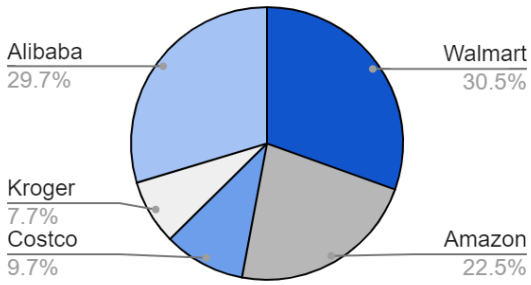
Market Percentage

Scarcity is the idea that consumers all have a limited amount of money that can be spent however they want. This money is distributed between sectors, industries, and businesses. Each business must continually innovate to win over consumers and capture as much revenue as possible.

Below is a chart showing the discount stores industry within the consumer defensive sector. The total revenue from each company is nearly 2 trillion dollars. Of this revenue, Walmart has the biggest slice of 30.5%.

There are several places to find competitors, but the primary resource is the company 10-k (annual report).

Company Name	Ticker	Revenue	Percentage
Walmart	WMT	523.96	30.5%
Amazon	AMZN	386.06	22.5%
Costco	COST	166.76	9.7%
Kroger	KR	132.5	7.7%
Alibaba	BABA	509.71	29.7%
Total Revenue		**$1,718.99**	



Balance Sheet

The company balance Sheet is used to track Assets (things of value the company owns), Liabilities (Debt), and Owners Equity (the value to shareholders). Both assets and liabilities can be broken down into current (within a year) or long-term (greater than a year). The data with the balance sheet is used to determine the **book value, leverage**, and evaluate the financial health of a business.

Market Capitalization = Shares Outstanding ttm * Stock Price

The Market Cap or Market Price is the monetary value investors place on a company. This is absolutely not the actual value which is the difference between what is owned (assets) and what is owed (liabilities).

Share Price	$127.28
Shares TTM	17,180
Market Capitalization	$2,186,670

Book Value = Total Assets - Total Liabilities

While the market price is the value investors place on the company that is driven up by supply and demand, book value is the ACTUAL value.

Total Assets	$ 323,888
Total Liabilities	$ 258,549
Book Value	$ 65,339

Price to Book (P/B) = Market Price / Book Value

Everything has 2 values, (1) what people are willing to pay (2) the actual value. The Market Price is what people are willing to pay. The Book Value is the actual value. Cars are an excellent way to understand P/B. As time goes on, most cars depreciate (go down in value) because cars will only last so long. However, some cars become classics and the demand drives the price up so people are willing to pay a premium. A premium is the amount people are willing to pay above the Book Value. This is the Market Price.

The P/B is a measure of how much more people are willing to pay above Book Value. Both cars have an actual value of $5,000. Car 1 is a classic so people are willing to pay $35,000 while Car 2 is not so people will only pay the book value. Because people are willing to pay EXACTLY the book value, Car 2 has a P/B of 1. Because people are willing to pay 7xs the book value of Car 1, it has a P/B of 7.

	Car 1	**Car 2**
Market Price	$35,000	$5,000.00
Book Value	$5,000.00	$5,000.00
P/B	**7.00**	**1**

The Market Price is the same as Market Capitalization. The book value is what is left when you subtract the debt from the assets. In the example below, AAPL has a P/B of 33 while MSFT has a P/B of nearly 16. This means that investors are willing to pay a higher premium for AAPL stock than they are for MSFT stock. The higher the P/B the more hype around the company. Investors expect the company to grow and the demand for the stock drives up the price. Like most ratios, the P/B should be compared to other companies in the industry or the industry average. What is high in one industry may be completely normal for another.

	AAPL	MSFT
Share Price	$125.61	$245.46
Shares TTM	17,180	7,626
Market Price	**$2,157,980**	**$1,871,878**
Total Assets	$323,888	$301,311
Total Liabilities	$258,549	$183,007
Book Value	**$65,339**	**$118,304**
P/B	**33.0**	**15.8**

Leverage

Leverage is an investment strategy that uses borrowed money to increase earnings. High leverage means the company has used mainly debt to finance expansion. Low leverage means the company has used their own money or sold shares to raise capital. When a company has too much debt and is over-leveraged they are at a greater risk to lenders. A company is considered over-leveraged when they carry too much debt which makes it hard to make payments on their loans. Video Investopedia.

Company A		Company B	
Cash Flow	$1,000	Cash Flow	$1,000
Debt	$2,000	Debt	$2,000
Payments	$100	Payments	$900
Left Over	$900	Left Over	$100

Company A and B both have a monthly cash flow of $1,000. Company A only has $100 in payments each month which leaves $900. Company B has $900 in payments which only leaves $100. If revenues decrease below $900 a month, company B won't be able to make their loan payments.

Company B is highly leveraged and at a higher risk to lenders. Not only is Business B at risk for going out of business, they will also have to pay higher interest rates on their loans. High risk = high rate.

Financial Health

Debt to Equity (D/E) - Total Liabilities / Total Shareholders Equity

Debt to equity measures the ability of a company to pay off debt using ALL assets.

Company A		**Company B**	
Assets	$100	**Assets**	$100
Debt	$10	**Debt**	$80
Equity	$90	**Equity**	$20
D/E	.11	**D/E**	4

This means that for every dollar of equity, Company A only has 11 cents of debt. Company B however, has $4 of debt for every $1 in equity.

Apple Inc.	**2016**	**2017**	**2018**	**2019**	**2020**
Long Term Debt	$ 75,427	$ 97,207	$ 93,735	$ 91,807	$ 98,667
Total Stockholders Equity	$ 128,249	$ 134,047	$ 107,147	$ 90,448	$ 65,339
Debt to Equity	0.59	0.73	0.87	1.02	1.51

Apple's Debt to equity ratio increased significantly from 2016-2020. However, the increase in leverage was due to a drop in interest rates that allowed Apple to take on debt at very low interest rates.

Current Ratio=Current Assets/Current Liabilities

Imagine you have debt payments of $1,000 a month. This debt is no problem because you have a good paying job. But, what would happen if you lost your job? You would still be responsible for making the monthly debt payments. Hopefully you'd have prepared with an emergency fund that would take care of the payments. You could also sell some of your assets if you ran out of savings or if you didn't want to use all the cash.

The Current Ratio measures the ability to pay off your current liabilities (debt due within a year) with your current assets (assets to be used in a year). The company below has a current ratio of 1.35 in 2016 which means that for every dollar of debt, they have $1.35 in assets that could be used to pay

the debt. Although the higher the better, as long as a company has a ratio above 1, they would be able to pay off their current liabilities with current assets.

Year	2016	2017	2018	2019	2020
Current Assets	106,869	128,645	131,339	162,819	143,713
Current Liabilities	79,006	100,814	116,866	105,718	105,392
Current Ratio	**1.35**	**1.28**	**1.12**	**1.54**	**1.36**

Quick Ratio= Current Assets - Inventory - Other current assets / Current Liabilities

The Quick Ratio is used when businesses have current assets that are less liquid (not easily converted to cash). Just like you'd have trouble selling some of the things you own, businesses may have trouble selling assets like inventory. The current ratio only considers the assets that could be "quickly" converted into cash to pay off the debt.

Current Assets	106,869	128,645	131,339	162,819	143,713
Inventory	2,132	4,855	3,956	4,106	4,061
Liquid Assets	$104,737	$123,790	$127,383	$158,713	$139,652
Quick Ratio	**1.33**	**1.23**	**1.09**	**1.50**	**1.33**

Income Statement

The Income Statement is used to determine net income or loss. It includes sales, cost of revenue, expenses, and taxes. The cost of revenue can be either Cost of Merchandise Sold (COMS) or Cost of Goods Sold (COGS). From this data, businesses can determine the most effective way to increase profits.

Revenue

Revenue is the amount of sales the company generates over a period of time. There are years that will be down for economic reasons, but overall successful companies innovate to find new ways to increase revenue. To analyze revenue, compare who has done a better job at increasing revenue to gain a bigger percentage of market share over the last 10 years.

Revenue Growth = (Year 2 - Year 1) / Year 1

Typically, new companies have very high growth rates that taper off but successful companies find ways to increase revenue year after year. Looking at the 5 year average growth will give a better idea of the company's ability to grow over a long period of time. The company below had a fantastic growth rate from 2011 to 2016 but was less successful the following five years. Be aware that bad economic years such as a recession can skew data and should be taken into consideration.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TTM
Revenue	108,249	156,508	170,910	182,795	233,715	215,639	229,234	265,595	260,174	274,515	325,406
Growth	-	44.58%	9.20%	6.95%	27.86%	-7.73%	6.30%	15.86%	-2.04%	5.51%	18.54%
					5Y Avg	**16.17%**			**5Y Avg**	**3.58%**	

Price to Earnings (P/E) = Stock Price / EPS

Price to Earnings measures how much investors are willing to pay for each dollar of earnings. A good want to understand the P/E value is with a sports comparison. In his rookie year, the Cleveland Cavaliers paid Lebron James $4 million dollars or about $50,000 per game. That investment brought in 21 points per game. In the same year, Carmelo Anthony also averaged 21 points per game but was paid $37,000 per game.

Per Game	Lebron	Carmelo
Salary	$50,000	$37,000
Points	21	21
Per Point	**$2,380**	**$1,761**

Why were the cavs willing to pay $619 more per point when the points are worth the same in the game? Although both were good, the Cavs believed that Lebron would increase his output in the future - and he did!

P/E measures how much investors are willing to pay for the earnings per share.

Like the comparison between Lebron and Carmelo, investors are willing to pay more per dollar of Company B's earnings, because Company B is TSLA and Company A is AAPL. Although Apple is a great company, TSLA is expected to grow at a much faster rate than AAPL which will provide a much higher return.

Net Income TTM	$76,311.00
Shares TTM	17,180
Earnings Per Share	$4.44
Stock Price	$127.22
Price to Earnings	28.6

Net Income TTM	$1,112.00
Shares TTM	1,118
Earnings Per Share	$0.99
Stock Price	$586.78
Price to Earnings	589.9

Profitability

Profitability examines the amount profit the company generates over a period of time. There are years that will be down for economic reasons and new tax laws can cut into profits, but overall successful companies cut their expenses and increase revenue which should increase Net Income each year. To analyze Net Income, compare who has done a better job at increasing revenue over the last 10 years and who has the better profit and operating margins.

Net Income Growth = (Year 2 - Year 1) / Year 1

While revenue growth tells the story of sales, net income growth tells the story of profit. Remember, increasing profit is both the ability to increase sales AND decrease all costs. Costs include the cost of revenue (COGS/COMS), expenses, and taxes. Changes in net income should be evaluated based on the reason for the change. While some changes are the result of company decisions such as the sale of a new product, other decisions such as a change in tax rate are the result of government policy and should not take away from the evaluation of company success.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TTM
Net Income	25,922	41,733	37,037	39,510	53,394	45,687	48,351	59,531	55,256	57,411	76,311
Growth	-	60.99%	-11.25%	6.68%	35.14%	-14.43%	5.83%	23.12%	-7.18%	3.90%	32.92%
					5Y Avg	**15.43%**			**5Y Avg**	**2.25%**	

Margins

Margins tell the journey of a dollar from revenue to profit. If a company makes a dollar, 20 cents may go to cost of goods sold, 40 cents may go to expenses, and 5 cents to taxes. This leaves 35 cents for profit. Each margin ratio shows the amount of each dollar that becomes profit. Keep in mind that each industry has a typical margin and the average margin changes each year. To get an accurate picture, company margins should be compared with the industry average.

Gross Margin = (Revenue - Cost of Revenue) / Revenue

Gross profit is the amount of revenue that is kept after Cost of Good Sold (COGS) or Cost of Merchandise Sold (COMS). COGS and COMS are the costs directly associated with revenue. These costs include the production or purchase of merchandise and labor associated with the production or purchase. The gross margin is the amount of each dollar left over. In the table below, the company has a very steady gross margin. In 2016 the company was able to keep 39 cents of every dollar of revenue and in 2020 38 cents. To increase net income, managers could explore ways to decrease the cost of revenue. **Greater than 30% is considered a good gross margin.**

Year	2016	2017	2018	2019	2020	TTM
Revenue	215,639	229,234	265,595	260,174	274,515	325,406
Cost of Revenue	131,376	141,048	163,756	161,782	169,559	195,630
Gross Profit	84,263	88,186	101,839	98,392	104,956	129,776
Gross Margin	39.1%	38.5%	38.3%	37.8%	38.2%	39.9%

Operating Margin = (Gross Profit - Operating Expenses) / Revenue

Operating income is the amount of profit left over after paying expenses. Expenses are the costs a company incurs with or without generating revenue. Costs such as debt payments, rent, and utilities are considered expenses. Operating margin is the amount of each dollar left over after the cost of revenue and expenses. In the table below, we see that nearly 28 cents of each dollar is left after operating expenses. If we compare that to the table above, it shows that nearly 11 cents is paid out for operating expenses. **Greater than 15% is considered a good operating margin.**

Year	2016	2017	2018	2019	2020	TTM
Gross Profit	84,263	88,186	101,839	98,392	104,956	129,776
Operating Expenses	24,239	26,842	30,941	34,462	38,668	40,873
Operating Income	60,024	61,344	70,898	63,930	66,288	88,903
Operating Margin	27.8%	26.8%	26.7%	24.6%	24.1%	27.3%

Profit Margin = (Gross Profit - Operating Expenses) / Revenue

Net Income is the amount of money left over after costs, expenses, interest, and taxes are all subtracted from revenue. The profit margin is the amount of each dollar left at the end. In the table below we see that in 2016 the company was able to keep 21 cents of every dollar made.

Year	2016	2017	2018	2019	2020	TTM
Revenue	215,639	229,234	265,595	260,174	274,515	325,406
Net Income	45,687	48,351	59,531	55,256	57,411	76,311
Costs, Expenses, Interest, Taxes	$ 169,952	$ 180,883	$ 206,064	$ 204,918	$ 217,104	$ 249,095
Change	-	6.43%	13.92%	-0.56%	5.95%	14.74%
Profit Margin	21.19%	21.09%	22.41%	21.24%	20.91%	23.45%

Margins		Profit on Every Dollar	
Revenue	**100%**	**Revenue**	**$1.00**
Gross Margin	**36%**	**Cost of Revenue**	**$0.61**
Operating Margin	**28%**	**Operating Costs**	**$0.11**
Profit Margin	**21%**	**Interest & Taxes**	**$0.07**
		Profit	**$0.21**

Returns

ROE and ROA are the two most important measures for evaluating how effective a company's management team utilizes their resources. If I give two people $100, how much money can each make? If I give two people $100 and a pickup, how much money can you make? That's the return!

Return on Equity (ROE) = Net Income / (Assets - Liabilities)

Companies sell stock to raise money for expansion that will increase profits. ROE is a measure of how well managers use the capital entrusted to them. In other words, I give you $100, how much money can you make? **A good company is expected to maintain an ROE greater than 12%.**

In the example below, Store 1 raised $100 million from the sale of stock while Store 2 raised $250 million. Both stores used the money to generate the same profit of $50 million. This resulted in a higher ROE for store 1 because they were able to make the same amount of profit with less to work with.

Store 1	
Net Income	$50,000,000
Equity	$100,000,000
ROE	**50%**

Store 2	
Net Income	$50,000,000
Equity	$250,000,000
ROE	**20%**

In the real world example below, AAPL has a much higher ROE, Net Income, and Equity. This means that, not only did they have more equity to use, they also used it better!

	AAPL	MSFT
Net Income	**$45,687**	**$16,798**
Assets	**$321,686**	**$193,694**
Liabilities	**$193,437**	**$121,697**
Equity	**$128,249**	**$71,997**
ROE	**35.62%**	**23.33%**

Return on Assets (ROA) = Net Income / Shareholders Equity + Liabilities

ROA measures how well managers are using their assets (the things they own) to generate income. In other words, I give you $100 and a pickup, how much money can you make?

In the example below, both stores generated $20 million in profits, however Store 2 did it with less assets which resulted in a higher ROA. This suggests that Store two is more efficient at using investments even though it is a smaller company.

Store 1	
Net Income	$20,000,000
Assets	$100,000,000
ROA	**20%**

Store 2	
Net Income	$20,000,000
Assets	$50,000,000
ROA	**40%**

In the real world example below, AAPL has a higher ROA, more assets, and generates more net income. They are a larger company and also used their assets more effectively.

	AAPL	MSFT
Net Income	**$45,687**	**$16,798**
Shareholders Equity	**$128,249**	**$71,997**
Add Liabilities	**$193,437**	**$121,697**
Total Assets	**$321,686**	**$193,694**
ROA	**14.20%**	**8.67%**

The difference in ROA and ROE is debt (leverage). ROA takes into account a company's debt because total assets include both shareholders equity and liabilities.

Earnings Per Share (EPS) = Net Income / Shares

Earnings per share measures the amount of earnings each shareholder would receive if all earrings were distributed to shareholders. The higher the EPS, the more profitable a company is considered to be.

Apple Inc.	**2016**	**2017**	**2018**	**2019**	**2020**
Net Income	45,687	48,351	59,531	55,256	57,411
Shares	22,001	21,007	20,000	18,596	17,528
EPS	$2.08	$2.30	$2.98	$2.97	$3.28

Dividends Per Share = Dividends Paid TTM / Shares TTM

The number one job of every CEO is to increase revenue. Therefore, every dollar of profit must be used in a way that benefits the company. In the beginning, companies will use 100% of profits to expand. More stores, more products, more research. As companies become more stable, they need to continue attracting investors and demand for their stock. One way to do this is through dividends. Dividends are a portion of net income that is distributed to shareholders. Dividends indicate that a company is financially stable enough to give a portion of their profits back. The higher the dividend, the more attractive the stock.

	2016	**2017**	**2018**	**2019**	**2020**
Dividends Paid	12,150	12,769	13,712	14,119	14,081
Shares	22,001	21,007	20,000	18,596	17,528
Dividends Per Share	$0.55	$0.61	$0.69	$0.76	$0.80