First Cut Stock Study Report

Company Name:	Apple	**Ticker:**	AAPL
Date of Study:	4/21/2020	**Price:**	$ 276.93 (4/20/20)
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Discuss why you consider this to be a high quality, growth company that should be investigated further. Please include comments on historical sales and EPS growth, pre-tax profit margin, return on equity, and debt.

Apple is a high quality growth company, growing sales 8% since 2012 and EPS 11.4% during the same period. Profit margins have declined in recent years, largely due to lower margins on their hardware products, especially the iPhone. This has been partially offset by higher margins on the fast growing services segment. Apple's %debt to capital is currently 54%, higher than our general guideline to keep debt less than 35% of capital. However, another debt metric is interest coverage, and that is currently around 20 times earnings, indicating Apple can easily pay the interest on their debt. Apple's debt does not appear to place a large financial burden on the company. Interest coverage falling to less than 10 would be a signal for me to do a bit more research on this.

A robust ecosystem is key to Apple retaining the existing customer base as well as attract new customers to switch from Android. The reluctance of customers to switch supports Apple's ability to charge premium prices for new products. The quality of Apple's brand is strong, and they benefit from their reputation of building products that work well together. This is an important aspect of Apple's sustainability as a quality company

Briefly describe how the company makes money:

Apple designs a wide variety of consumer electronic devices, including smartphones (iPhone), tablets (iPad), PCs (Mac), smartwatches (Apple Watch), and TV boxes (Apple TV), among others. The iPhone makes up the majority of Apple's total revenue. In addition, Apple offers its customers a variety of services such as Apple Music, iCloud, Apple Care, Apple TV+, Apple Arcade, Apple Card, and Apple Pay, among others. Apple's products run internally developed software and semiconductors, and the firm is well known for its integration of hardware, software and services. Apple's products

are distributed online as well as through company-owned stores and third-party retailers. The company generates about 40% of its revenue from the Americas, with the remainder earned internationally.
(source: BI Company Research/Morningstar)

Projected growth rate for sales: 6**%**

Why did you select this rate? Discuss from where future growth will come.

The COVID-19 pandemic is negatively affecting Apples' sales, at least in the short term. Supply of iPhones is down due to the temporary shutdown of manufacturing sites in China. In addition, many Apple stores have been temporarily shut down. Demand from consumers is also down in this challenging economic environment.

So while sales in the current year will be flat or, possibly, down, growth is expected to return in future years, driven by the first 5G iPhone, expected to be launched in the fall of 2020, which is expected to lead a robust upgrade cycle. In addition, the continued strong growth of the services segment (apps, iCloud, Apple Pay) is expected to continue.

The 6% sales growth estimate remains unchanged from my previous report, and is supported by various analyst estimates. 6% sales growth is not expected in the current fiscal year, but over the next 5 years, this still appears to be a reasonable long-term growth rate. In addition, this growth rate is in line with the 5% to 7% sales growth that we hope to see from a high quality, large company. With $260B in 2010 sales, Apple is a VERY large company.

Projected growth rate for earnings per share: 6.0**%**

Why did you select this rate?

Long-term EPS growth estimates from various sources (Yahoo finance, Zacks, Value Line, Morningstar, CFRA) range from 10% to 14%. Apple's profit margin has been dropping in recent years, due to less profit on iPhones, an increase in Research and Development spending and higher interest expense.

Looking to the preferred procedure, I adjusted the pre-tax profit margin down to 25.0%, or the profit margin from 2019. I left the taxes and shares outstanding at the current levels. This resulted in an EPS growth rate of 6%. If Apple continues to buy back shares as they have in the recent past, that could provide an additional boost to earnings.

Projected High P/E: 17.3

Why did you select this value?

I used the 5-year average high P/E.

Projected Low P/E: 11.3

Why did you select this value?
I used the 5-year average low P/E.

Projected Low Price: $143.1
Why did you select this value?
This is the Average low P/E x the TTM EPS.

At the current price, the stock is a (check one):

☐**Buy** or ☐**Hold** or ☒**Sell**

At the current price, the upside-downside ratio is: 0.1 **to 1**

Compound Annual Return – Using Forecast High P/E: 2.5**%**

Your final recommendation (check one):

☐**Buy** or ☐**Hold** or ☒**Sell**

Explain:

The current P/E for Apple is nearly 22. This is a much higher P/E than it has been in the past. Considering the current economic environment, the high P/E is flashing a warning signal to me. While Apple appears to be a high quality growth company, the valuation does not seem to be warranted based on slower growth that is expected in the next year or so.

My final recommendation is always to do your own research, complete your own stock study and make sure you are comfortable with your forward-looking projections before making any buy or sell decisions.

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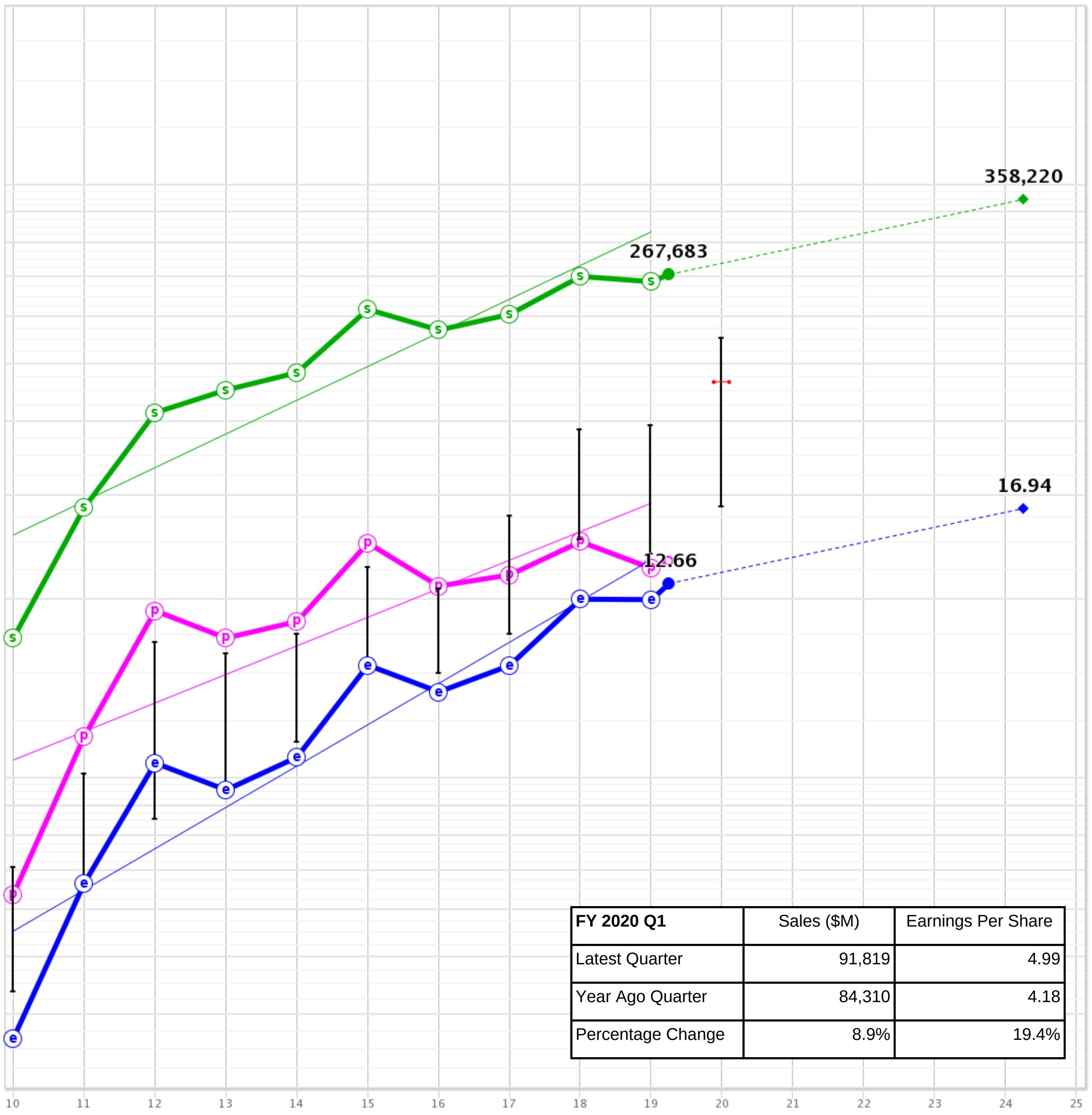
Stock Selection Guide

Company Apple Date 04/20/20
Prepared by BI Data taken from BI Stock Data
Where traded NAS Industry Consumer Electronics
Capitalization --- Outstanding Amounts Reference

Preferred ($M)	0.0	% Insiders	% Institution
Common (M Shares)	4,454.6	0.2	34.5
Debt ($M) 108,292.0	% to Tot Cap 54.7	% Pot Dil	0.9

Symbol: AAPL

1 VISUAL ANALYSIS of Sales, Earnings, and Price



FY 2020 Q1	Sales ($M)	Earnings Per Share
Latest Quarter	91,819	4.99
Year Ago Quarter	84,310	4.18
Percentage Change	8.9%	19.4%

(1) Historical Sales Growth	14.0%	(3) Historical Earnings Per Share Growth	17.4%
(2) Estimated Future Sales Growth	6.0%	(4) Estimated Future Earnings Per Share Growth	6.0%

2 EVALUATING Management

Apple

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Last 5 Year Avg.
Pre-tax Profit on Sales	28.4%	31.6%	35.6%	29.3%	29.3%	31.0%	28.5%	28.0%	27.4%	25.3%	28.0%
% Earned on Equity	29.0%	33.6%	37.1%	29.0%	31.3%	40.9%	35.0%	35.7%	49.3%	54.8%	43.1%
% Debt To Capital	0.0%	0.0%	0.0%	12.1%	24.0%	35.1%	40.4%	46.3%	51.7%	54.4%	45.6%

3 PRICE-EARNINGS HISTORY as an indicator of the future

This shows how stock prices have fluctuated with earnings and dividends. It is building block for translating earnings into future stock prices.

CLOSING PRICE 276.93 (04/20/20) **HIGH THIS YEAR** 327.85 **LOW THIS YEAR** 170.27

	A	B	C	D	E	F	G	H
Year	**Price**		**Earnings**	**Price Earnings Ratio**		**Dividend**	**% Payout**	**% High Yield**
	High	Low	Per Share	High A / C	Low B / C	Per Share	F / C * 100	F / B * 100
2015	134.5	92.0	9.22	14.6	10.0	1.98	21.5	2.2
2016	123.8	89.5	8.31	14.9	10.8	2.18	26.2	2.4
2017	164.5	104.1	9.21	17.9	11.3	2.40	26.1	2.3
2018	229.7	150.2	11.91	19.3	12.6	2.72	22.8	1.8
2019	233.5	142.0	11.89	19.6	11.9	3.00	25.2	2.1
AVERAGE		115.6		17.3	11.3		24.4	
CURRENT/TTM			12.66			3.08	24.3	
AVERAGE PRICE EARNINGS RATIO: 14.3					CURRENT PRICE EARNINGS RATIO: 21.9			

4 EVALUATING RISK and REWARD over the next 5 years

Assuming one recession and one business boom every 5 years, calculations are made of how high and how low the stock might sell. The upside-downside ratio is the key to evaluating risk and reward.

A HIGH PRICE - NEXT 5 YEARS

Avg. High P/E 17.3 X Estimate High Earnings/Share 16.94 = Forecasted High Price $ 293.1

B LOW PRICE - NEXT 5 YEARS

(a) Avg. Low P/E 11.3 X Estimate Low Earnings/Share 12.66 = Forecasted Low Price $ 143.1

(b) Avg. Low Price of Last 5 Years 115.6

(c) Recent Market Low Price 142.0

(d) Price Dividend Will Support $\frac{\text{Indicated Dividend}}{\text{High Yield}} = \frac{3.08}{2.44\%} = 126.4$

Selected Forecasted Low Price $ 143.1

C ZONING using 25%-50%-25%

Forecasted High Price 293.1 Minus Forecasted Low Price 143.1 = 150.0 Range. 25% of Range 37.5

Buy Zone	143.1	to	180.6
Hold Zone	180.6	to	255.6
Sell Zone	255.6	to	293.1

Present Market Price of 276.93 is in the **SELL** Zone

D UPSIDE DOWNSIDE RATIO (POTENTIAL GAIN VS. RISK OR LOSS)

$\frac{\text{High Price}}{\text{Present Price}} \quad \frac{293.1}{276.93} \quad \frac{\text{Minus Present Price}}{\text{Minus Low Price}} \quad \frac{276.93}{143.1} = \frac{16.17}{133.83} = 0.1$ To 1

E PRICE TARGET **(Note: This shows the potential market price appreciation over the next five years in simple interest terms.)**

$\frac{\text{High Price}}{\text{Closing Price}} \quad \frac{293.1}{276.93} = 1.0584 \quad \text{X} \quad 100 = 105.84 - 100 = 5.8$ % Appreciation

5 5-YEAR POTENTIAL

This combines price appreciation with dividend yield to get an estimate of total return. It provides a standard for comparing income and growth stocks.

A $\frac{\text{Indicated Annual Dividend}}{\text{Closing Price}} \quad \frac{3.00}{276.93} = 0.0111 = 1.1$ % Current Yield

B AVERAGE YIELD - USING FORECAST HIGH P/E

$\frac{\text{Avg. \% Payout}}{\text{Forecast High PE}} = \frac{24.4\ \%}{17.30} = 1.4$ %

AVERAGE YIELD - USING FORECAST AVERAGE P/E

$\frac{\text{Avg. \% Payout}}{\text{Forecast Average PE}} = \frac{24.4\ \%}{14.30} = 1.7$ %

C COMPOUND ANNUAL RETURN - USING FORECAST HIGH P/E

Annualized Appreciation	1.1 %
Average Yield	1.4 %
Annualized Rate of Return	2.5 %

COMPOUND ANNUAL RETURN - USING FORECAST AVG P/E

Annualized Appreciation	-2.6 %
Average Yield	1.7 %
Annualized Rate of Return	-0.9 %