

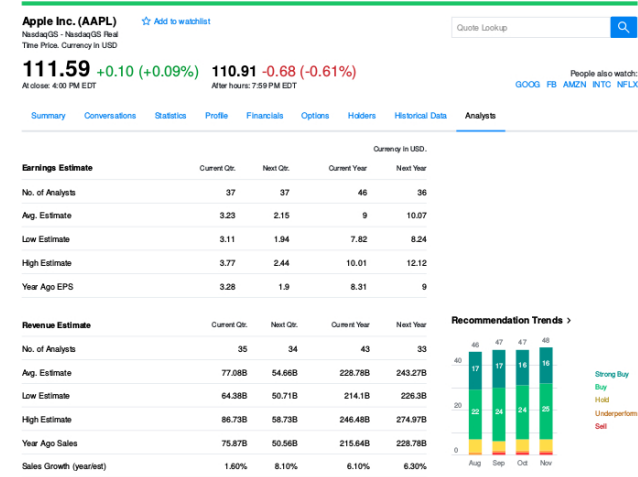
A company's financial performance includes all kinds of ratios. We'll try to make sense of some of them.

Evaluating Companies with Financial Metrics

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Analysts expect AAPL to sell for \$130.61 in a year. They pay a dividend of \$2.28 per share.

Open	111.40	Market Cap	601.3B
Prev Close	111.49	P/E Ratio (ttm)	13.43
Bid	110.91 x 3700	Beta	1.55
Ask	110.94 x 300	Volume	26,488,953
Day's Range	111.23 - 112.35	Avg Vol (3m)	35,234,524
52wk Range	100.47 - 112.35	Dividend & Yield	2.28 (2.01%)
1y Target Est	130.61	Earnings Date	Jan 24, 2017 - Jan 30, 2017

What kind of return would this imply?

$$\text{Current price} = 111.92 \stackrel{?}{=} \frac{130.61 + 2.28}{1 + r}$$

I get 18.7%. This strikes me as implausible.

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What kind of return would this imply?

If we just look at the dividend each year and ignore the forecast, we get

$$111.92 \stackrel{?}{=} \frac{2.28}{1 + r} + \frac{2.28}{(1 + r)^2} + \dots = \frac{2.28}{r}$$

I get around 2%.

Estimated return: between 2% and 19%. Can we do better? Let's look at earnings per share (EPS).

Earnings Estimate	Currency in USD.			
	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	37	37	46	36
Avg. Estimate	3.23	2.15	9	10.07
Low Estimate	3.11	1.94	7.82	8.24
High Estimate	3.77	2.44	10.01	12.12
Year Ago EPS	3.28	1.9	8.31	9

Analysts expect Apple to earn a little over \$10/sh. next year.

I got fancy:

- 36 analysts cover AAPL
- Lowest forecast: \$8.24/sh.
- Highest forecast: \$12.12/sh.
- **Average: \$10.07/sh.**

$$\begin{aligned} \text{Min}[36N(\mu, \sigma) \text{ draws}] &\approx \mu - 2.12\sigma \\ \text{Max}[36N(\mu, \sigma) \text{ draws}] &\approx \mu + 2.12\sigma \end{aligned}$$

$$\begin{aligned} \mu &\approx 10.18 & \sigma &\approx 0.92 \\ 95\% \text{ c.i.: } & [8.38, 11.98] \end{aligned}$$

Use the perpetuity formula to estimate the return using EPS. We get a price-earnings (PE) ratio.

Idea: Apple doesn't pay out all it earns as dividend.

If earnings are the value Apple generates each year, then

$$111.92 \approx \frac{E}{1+r} + \frac{E}{(1+r)^2} + \dots = \frac{E}{r}$$

$$PE = \frac{P}{E} \approx \frac{1}{r}$$

With average forecast of \$10.07, I get $r \approx 9\%$.

My 95% c.i. gives a range of 7.5% to 10.7%

Earnings include a present value distortion. Instead of PE, some people look at price/free cash flow.

$$\begin{aligned} FCF &= CFO - \text{Capital Expenditures} - \text{Short-term Debt} \\ &\quad - \text{Current Portion of Long-term Debt} \end{aligned}$$

The first two are on the Statement of Cash Flows.

The last two are on the Balance Sheet.

$$\text{For Apple, } \frac{P}{FCF} \approx \frac{601.3B \text{ Market cap}}{43.97 \text{ FCF}} = 7.3\%$$

Whether these estimates are reasonable depends in part on how stable Apple's earnings are.

Two common measures of profitability:

- Return on Assets
- Return on Equity

$$ROA = \frac{\text{Earnings}}{\text{Book Value of Assets}}$$

$$ROE = \frac{\text{Earnings}}{\text{Book Value of Equity}}$$

- Some people divide by average equity/assets over year.
- It's better to divide by the starting value.

Can Apple meet its short-term obligations? For this, we look at liquidity.

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Apple CR: 1.35

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Apple WC: \$27.9bn

Last year: \$8.8bn