

>: The Importance of Interest Rates to Wall Street Analysts!

Tuesday, December 11, 2007 / Jason Jovine

? Note: The Federal Reserve will have its last meeting for 2007 today. Interest rates currently stand at 4.5% after two consecutive cuts. Today's announcement will certainly help give the market direction for the remaining part of this year and into 2008.

Wall Street analysts pay close attention to what the FOMC (the Fed) does when it announces interest rates. They do so for many reasons, but let me show you directly how they interpret this information and why it is important.

Financial Modeling

A financial model for a Wall Street analyst consists of Excel spreadsheets or some other type of software that can hold a lot of financial data. This data has all of his or her inputs on a company plugged into the ?model? so that he or she can get an accurate view of what the company is worth.

This is an analyst's

Here is a very simple

10		
11	Current price	43
12	div1	1.12
13	Beta	0.254
14	Required Return of Capital	6.1%
15	Risk free rate T bond 30 years	4.9%
16	Risk premium S&P500 over T Bond 1926 -2003	5.0%
17	Growth rate	8.64%
18	historic growth	6.00%
19	implied growth	3.52%
20	fundamental growth	13.77%
21		
22	ROE	31.65%
23	EPS	1.77
24	DIV	1
25	RR=Retained Earnings/Earnings	43.50%
26	fundamental growth	13.77%
27	Debt ratio	6.97%
28		
29		
30		

CAPM	6.12%
PE	47.22
PS	28.14
EV/EBITDA	39.59
DDM	45.90
DCF	78.67
TARGET PRICE	47.90

Relat. Val

Cost of Equity	
Rf+beta * Market risk premium	
Risk free rate	4.9%
beta	0.254
Market risk premium	5.0%
Cost of Equity	6.12%

31	Profitability Ratios (%)	Company	Industry	Sector	S&P 500
32	Gross Margin (TTM)	65.22	58.42	45.47	46.45
33	Gross Margin - 5 Yr. Avg.	64.36	57.91	45.24	45.41
34					
35	EBITD Margin (TTM)	30.01	23.61	19.27	21.78
36	EBITD - 5 Yr. Avg.	30.34	23.38	19.55	20.23
37					

Summary DCF analysis Relative valuation Sensitivity analysis_Ke Operating assumptions Balance Sheet Cash Flow

Ignore everything in the snapshot above except for that box that I put a red circle around. That box is entitled ?Cost of Equity?.

The formula for cost of equity is $K = R_f + \beta (E(R_m) - R_f)$

Where:

K = Cost of Equity

R_f = Risk-free rate of return (e.g. treasury bills or bonds)

β = The stock's Beta (e.g. how sensitive the stock is to the overall market)

$E(R_m)$ = The expected return on the market (e.g. the S&P 500)

$\{E(R_m) - R_f\}$ = The market risk premium (e.g. Since treasury bills are essentially risk-free because the U.S. government won't go bankrupt, at least not any time soon, what is the additional risk in percentage terms by being invested in the stock market?)

In our example, K would be equal to 6.12%, since:

$$K = 4.9 + 0.254 * 5$$

go down, and their yield goes up.

Heres why:

Let's say that you are holding a bond paying you a 3% coupon rate, and interest rates are currently at 3%, as well. Let's say interest rates get raised from 3% to 4%. Your bonds paying you 3% will look less attractive since you can buy new bonds that will pay you at least 4%. This means that the demand for the 3% bonds will go down, and hence, if their price goes down, their yield will go up.

A 3% coupon on a \$1,000 bond on an annual basis equates to \$30 per year ($\$30/\1000) that you will get.

If interest rates go up, and there is less demand for your bond, then the price will fall. Say it falls to \$900 per bond. A 3% coupon of \$30 on \$900 is a yield of 3.33% ($\$30/\900). The yield went higher. Do you follow me?

I know that you hate boring old bonds, so let's get back to stocks...

When an analyst determines how much a stock is worth, chances are he uses some kind of Dividend Discount Model (DDM). He may substitute the cash flow or the earnings of the company in place of the dividends, but the concept is still the same.

Here is a very basic constant growth version of one:

$$V_0 = D_1 / (K - G)$$

This constant growth assumes that the growth rate for the company will stay constant for a long while.

Here:

V_0 = The price of the stock today

D_1 = The dividend a year from today.

K = (see above)

G = The company's projected growth rate.

So, say that we expect the company to grow at 4% per year, and the company just paid a total dividend of \$4. In one year, we could assume that the dividend will be \$4.16 ($\$4 * 1.04$).

So the price of the stock today would be:

$$V_0 = \$4.16 / (.0612 - .04) = \$196.23.$$

If the stock were trading below this price, then you would buy it, and if it were trading above this price, then you would sell it.

Now let's say K , which takes interest rates into account, goes up by just 1% to 7.12% from 6.12%. Look what happens.

$$V_0 = \$4.16 / (.0712 - .04) = \$133.33.$$

The stock went down by almost \$63, or about 32%!

Now, do you understand a little bit better why Wall Street freaks out about interest rates?

Until the next time, folks, spend your hard-earned money wisely.



Jason Jovine

Chief Investment Officer

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