

# The CAPM, the Cost of Capital, and Project Evaluation

THE MOMENT  
LASTS A SECOND.  
THE LEGEND  
LASTS FOREVER.

CRISTIANO RONALDO / 78 : 20

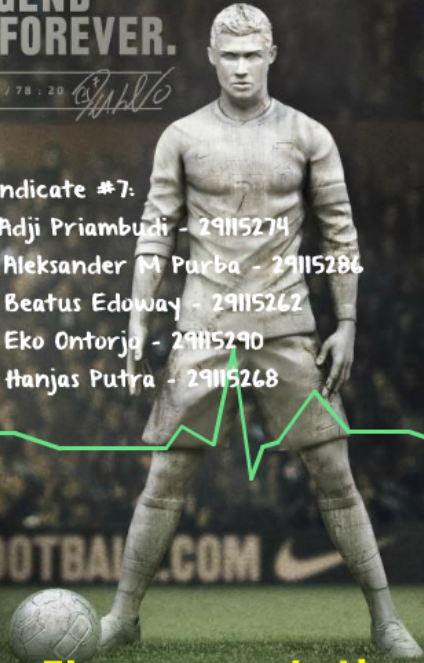
*Caputo*

WRITE  
THE  
FUTURE



Syndicate #7:

1. Adji Priambudi - 29115274
2. Aleksander M Parba - 29115286
3. Beatus Edoway - 29115262
4. Eko Ontorjo - 29115290
5. Hanjas Putra - 29115268



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Thank You!  
LIVESTRONG





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# Executive Summary

## NorthPoint Group

A Mutual Fund Management Firm, which had an extremely well performance.

In 2000, the fund earned a return of 20.7%, while S&P 500 fell at 10.1%.

End of June 2001, the fund YTD return of 6.4% vs S&P 500 at -7.3%.

July 2001, NPG decided for having a comprehensive research of an investment plan on Nike, Inc.

## Nike, Inc.

A Worldwide Athletic Shoe Manufacture.

Nike's share price had declined significantly in the beginning of the year (2001), then it had an internal analyst meeting to disclose its Fiscal Year - 2001 Result.

US Market Share had fallen from 48% ('97) to 42% ('00).

SCM issues & adverse effect of strong dollar had negatively affected the revenue at the time.

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# Kimi's Preliminary Forecast

Kimi Ford (as NPG's Portfolio Manager), read all the Analyst Report deal with Nike's June 28th Meeting but has no clear guidance since all the Analysts (Lehman Brothers, UBS Warburg & CSFB) have different recommendations.

She decided to develop her own discounted cash flow forecast, then revealed that:

at a discount rate of 12%, Nike was overvalued at its Current Share Price at \$42.09, and it was undervalued at discount rates below 11.17%

Kimi then asked her New Assistant: Joanna Cohen to estimate Nike's Cost of Capital (Cost of Debt & Cost of Equity)

ECG

# 62 bpm

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### Cohen's Analysis:

- Single or Multiple Capital Structure:  
Single; considering that most of Nike's products were sports related products to apparel & footwear lines.
- Cost of Debt:  
Cost of debt is 5.3% (Total Interest Expense for the year 2001 divided by average debt balance).  $Rd = \$58.7 / \$1,200.6 = 4.9\%$   
After implementing tax rate of 38%, the cost of debt becomes 2.7%.  
 $Rd = 4.9\% \times (1 - 38\%) = 2.7\%$
- Cost of Equity:  
Using the CAPM (Capital Asset Pricing Model) based on her opinion this method is the superior one, the cost of equity is 10.5%; using the current yield on 20 year Treasury bonds as the risk-free rate (4%), neg of Nike's status from DDM, Average & Geographic Means on Risk Premiums.  
 $Ri = Rf + (\beta \times (Rm - Rf)) = 4.3\% + (0.8 \times 5.5) = 10.5\%$
- Methodology for calculating Cost of Capital:  
Using WACC (Weighted Average Cost of Capital) with debt & equity ratios valued 27% & 73% (based on book value).  
 $WACC = (0.27 \times Rd) + (0.73 \times Ri) = (27\% \times 2.7\%) + (73\% \times 10.5\%) = 8.4\%$

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### Syndicate#7 Analysis

#### COST OF CAPITAL Thecasesolutions.com

The cost of funds used for financing a business. Cost of capital depends on the mode of financing used – it refers to the cost of equity if the business is financed solely through equity, or to the cost of debt if it is financed solely through debt. Commonly use a combination of debt and equity to finance their businesses, and for such companies, their overall cost of capital is derived from a weighted average of all capital sources, widely known as the weighted average cost of capital (WACC).

##### Single or Multiple Capital Structure:

Single; considering that most of Nike's products were sports related products (apparel & footwear lines which sold through the same marketing & distribution channel which supposed to have the same risk factors

##### Cost of Debt:

We calculated cost of debt by taking total interest expense for current year (2001) and divide it by the current year debt balance as well (2001).

Interest expense on 2001 = \$58.7m, Debt Balance in 2001 = Current Portion of long-term debt + Long-term debt = \$441.3m

$Rd = \$58.7m / \$441.3m = 13.3\%$

After implementing tax rate of 38%, the cost of debt,

$Ri = Rd \times (1 - T) \rightarrow Ri = 13.3\% \times (1 - 38\%) = 8.3\%$

## Cohen's Analysis:

- **Single or Multiple Capital Structure:**

Single; considering that most of Nike's products were sports related products (apparel & footwear lines).

- **Cost of Debt:**

Cost of debt is 4.3% (Total Interest Expense for the year 2001 divided by average debt balance). →  $R_d = \$58.7 / \$1,370.6 = 4.3\%$

After implementing tax rate of 38%, the cost of debt becomes 2.7%,

$$R_i = 4.3\% (1 - 38\%) = 2.7\%$$

- **Cost of Equity:**

Using the CAPM (Capital Asset Pricing Model) based on her opinion this method is the superior one, the cost of equity is 10.5%; using the current yield on 20 year treasury bonds as the risk-free rate ( $R_f$ ), Avg of Nike's Betas from 1996 - Present & Geometric Mean as Risk Premium.

$$R_s = R_f + [b \times (R_m - R_f)] = 5.74 + (0.8 \times 5.9) = 10.5\%$$

- **Methodology for calculating Cost of Capital:**

Using WACC (Weighted Average Cost of Capital) with debt & equity ratio valued 27% to 73% (based on book value).

$$WACC = (W_i \times R_i) + (W_p \times R_s) = (27\% \times 2.7\%) + (73\% \times 10.5\%) = 8.4\%$$

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$$R_d = \$58.7m / \$441.3m = 13.3\%$$

After implementing tax rate of 38%, the cost of debt,

$$R_i = R_d \times (1 - T) \rightarrow R_i = 13.3\% (1 - 38\%) = 8.3\%$$

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Capital Asset Pricing Model (CAPM) Method. We're using 2 approaches as short term & long term valuation.

- **Short term valuation preference:**

The current yield on 3 month treasury bonds as risks free rate and the compound average premium of the market over treasury bond using arithmetic mean (7.5%) as the risk premium ( $R_m - R_f$ ).

Arithmetic mean is commonly use to estimate for shorter life valuation (1 year estimated expected return).

For beta we use current year (2001), as much as 0.69, and  $R_f$  is 3.59%

$$R_s = R_f + [b \times (r_m - R_f)] \rightarrow R_s = 3.59 + (0.69 \times 7.5) = 8.8\%$$

- **Long term valuation preference:**

The current yield on 20 years treasury bonds as risks free rate and the compound average premium of the market over treasury bond using Geometric mean (5,90%) as the risk premium ( $r_m - R_f$ ).

Geometric mean is commonly use to estimate for longer life valuation (more than 5 years estimated expected return).

For beta consistantly we use current year (2001), as 0.69 and  $R_f$  is 5.74%<sup>2</sup>

$$R_s = 5.74 + (0.69 \times 5.9) = 9.8\%$$



# Cost of Capital Calculation

Using WACC/Ra (Weighted Average Cost of Capital) as overall Cost of Capital, which reflects the expected average future cost of funds in the short/long term valuation, which calculated by weighting the specific type of Capital Cost by its proportion in the firm Capital Structure.

Within this Case, debt and equity ratio valued 27% to 73% (based on book value). The cost of equity is comprised the cost of preferred stock and common stock. In this case, we willing to focus on the cost of common stock because Nike did not pay any dividend after June 30, 2001.

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The importance roles of WACC approaching are:

- It can determine cost of funds to finance projects
- It can evaluate Corporate Investment decision:
  - IRR < WACC --> decrease Owners wealth
  - IRR > WACC --> increase Owners wealth
- It can reflect interrelatedness among financing activities (proportion of debt and equity).

As a component to calculate EVA (economic value added) of company.



# WACC Calculation

Methodology for calculating Cost of Capital:  
Using WACC (Weighted Average Cost of Capital)  
with cost of debt & cost of equity valued 8.2% to  
8.8% (short term valuation) & 9.8% (long term  
valuation),

$$WACC = (W_i \times R_i) + (W_p \times R_s)$$

$$WACC \text{ Short Term} = (11.21\% \times 8.2\%) + (80.79\% \times 8.8\%) = 8.03\%$$

$$WACC \text{ Long Term} = (11.21\% \times 8.2\%) + (80.79\% \times 9.8\%) = 8.83\%$$