

Unit 3 IP

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Applied Managerial Finance

Unit 3 IP

Determining the Decision Criteria for the Project

³ Capital Structure

Capital structure describes the preferred stock, mixed debt and common equity which are expected to optimize the stock price of an organization. Hence, for Apix Company, the target structure refers to the capital in which it strives to obtain. In such a way, as the company raises new capital, then its focus will be to maintain this target or optimal ⁸ capital structure. The target capital structure, thereby, ³ is used to estimate the weighted average cost of capital (WACC). The WACC is a firm's calculation cost of capital in which each category of capital is proportionately weighted (Smirnov, 2018). It ³ is the average after tax of a company different capital sources which include ⁷ preferred stock, common stock, bonds as well as other long term debts. In other words, ² weighted average cost of capital is the average rate a company expects to pay to finance its assets.

WACC is calculated as follows

$$WACC = \frac{E}{V} * Re + \frac{D}{V} * RD * (1 - Tc)$$

- ² 1. Multiply the cost of each capital component by its proportional weight
2. Take the sum of the results
3. Multiply by 1 – corporate tax rate

Where:

- Re = cost of equity
- Rd = cost of debt

- E = market value of the firm's equity
- D = Market value of the firm's debt
- $V = E + D$ = total value of the firm's financing (equity and debt)
- E/V = percentage of financing that is equity
- D/V = percentage of financing that is debt
- T_c = corporate tax rate

Project Feasibility Estimates

While making a presentation to the investment bankers after preliminary discussions, the excel WACC calculations would be important as they provide the company with its financing costs.

The WACC³ is then used to discount on projects or businesses in the valuation model (Lumen, 2019). As an excel equation, the WACC would be expressed as follows;

$$WACC = wD * rD * (1 - t)^4 + wP * rP + wE * rE$$

Where:

- W = the respective weight of debt, preferred stock/ equity, and equity in the total capital structure
- T = tax rate
- D = cost of debt
- P = cost of preferred stock/ equity
- E = cost of equity

Calculating WACC using excel is quite easy despite the ³ challenging part of getting the correct data to insert into the model. As demonstrated from the equation, ³ the after tax debt is found by looking into the company fillings debt disclosures, where the cost should clearly be stated. ³ Total capital is calculated by adding the debt to the market value of the equity.

The WACC estimates suggested are as follows:

- ¹ Weights of 40% debt and 60% common equity (no preferred equity)
- Tax rate of 35%
- Cost of debt of 8%
- Beta of 1.5
- Risk-free rate of 2%
- Return on the market of 11%

Therefore;

$$Re = (Rf) + [B (Rm - Rf)] = 2\% + 1.5 (11\% - 2\%) = 15.5\%$$

$$WACC = (\text{weight of common equity} \times \text{firms cost of equity } Re) + (\text{Cost of Debt} \times \text{Weight of Debt} \times (1 - \text{tax rate}))$$

$$WACC = (60\% \times 15.5\%) + (40\% \times 8\% \times (1 - 35\%)) = .01138 \text{ or } 11.38\%$$

WACC of 11.38% provides the following parameters:

$$IRR > 11.38\% = \text{yes decision}$$

$IRR < 11.38\%$ = not appropriate decision

$NPV > \$0$ = yes decision

$NPV < \$0$ = not appropriate decision

Recommendations:

The WACC results give a percentage of 11.38% which means the project has a higher possibility of breaking even when the end results are evaluated. A percentage below the WACC would mean it is a loss for the Apex Company, an indication it is an inappropriate decision. A higher ¹percentage above the WACC would mean a higher return on investment for the Apex Company, an indication it is a good decision. Comparing the figures at hand, ¹the cost of equity of 15.5% is higher than the 11.38% which indicates it is an appropriate decision to consider. Nevertheless, more computations would be recommended to be taken ¹before making a final decision.

Marginal cost of capital (MCC)

Apex Company uses ⁵the MCC which is a concept used in financial management for capital budgeting purposes. ¹It is the weighted average cost of the last \$1 of new capital raised. The MCC uses a similar formula as the WACC. However, the MCC increases when the WACC cap has been reached and as more funding is secured (Smirnov, 2018). Since capital is scarce for the ¹Apex Company, the marginal cost of capital rises as the company raises more and more capital.

¹In determining if the project is acceptable, it is essential to use more than one measure. In our case, the capital structure is the basis for WACC, NPV and IRR while the WACC provides the

breakeven point. Hence, it is important to make a comparison for all measures in making an appropriate and sober decision.

¹
References

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Smirnov, Y. (2018). ⁵Marginal Cost of Capital | Definition | MCC vs WACC | Formula |

Example | Breakpoint | Graph | Investment Opportunity Schedule | Optimal Capital

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