

## ***The Flows to Equity (FTE) Approach***

We also use the MM world and the PPM Inc. example to illustrate the Flows to Equity (FTE) approach. The three steps in the FTE approach are as follows:

### **1. Estimate Cash Flows to Levered Equity, LCF**

Recall that the expected annual EBIT of the project is \$2,531,646. If PPM Inc. financed the project with \$4,969,630 debt at 10% interest, the net after-tax cash flow to stockholders is:

$$\text{Cash Flows to Levered Equity, LCF} = (\$2,531,646 - \$496,963) * (1 - .21) = \$1,607,400$$

### **2. Estimate Required Return on Levered Equity ( $r_s$ )**

Since this example is in the MM world, we can use MM Proposition II (with corporate taxes) to estimate the cost of levered equity:

$$r_s = r_0 + (B/S_L) * (1 - T_C) * (r_0 - r_B)$$

The only unknown factor is the optimal debt-to-equity ratio,  $B/S_L$ . With the given debt ratio of 0.45, we can express the debt-to-equity ratio as  $B/S_L$  is 45/55, then the cost of levered equity is:

$$r_s = 20\% + (45/55) * (1 - .21) * (20\% - 10\%) = 26.4636\%$$

### **3. Value the LCF at $r_s$**

The value of the project to levered equity =  $\$1,607,400 / 0.264636 = \$6,074,004$ .

The project's initial cost is \$10,000,000 and PPM Inc. plans to borrow \$4,969,630, implying that \$5,030,370 will be the common equity part of the initial investment. Therefore, **the NPV to stockholders under the FTE approach is  $\$6,074,004 - \$5,030,370 = \$1,043,634$ .**

In practice, the FTE approach seldom generates the same result as the APV method.

Note from the previous section titled "Calculation of the debt amount, B, given the target debt ratio, X" that we assume a target debt ratio to address the simultaneity problem embedded in both the FTE approach and the WACC approach when the target debt or debt-to-

equity ratio is based on market values. Market efficiency that ensures fair valuation of securities is assumed in our analysis.

**Reference Lecture Slides 8 - 11 and 40 - 43 for additional numerical examples on the FTE approach.**