

Session 23a: Post class answers

1. **e. All of the above.** By matching the cash flows on the debt up to the cash flows on the assets, you reduce default risk, which reduces your cost of borrowing (and capital) for any given level of debt and gives you the capacity to borrow more money, if you choose to.
2. **a. Long term, fixed rate US \$ debt.** The projects are long term and the cash flows are in US \$, yielding long term, US \$ debt. The fact that the firm has no pricing power will not allow it to pass inflation through to its customers, making it a better candidate for fixed rate debt.
3. **a. Preferred stock is treated as part of regulatory capital.** Preferred stock is not cheaper than debt and does not yield any tax advantages. The cost of preferred stock may look lower than the cost of equity, but it is not cheaper, since you have to much larger fixed dividends on preferred stock.
4. **d. 6.5 years.** The weighted average duration of the debt has to be set equal to the duration of the assets. Based on the regression, the duration of the assets is 6 years:
$$5 (5/15) + X (10/15) = 6$$
$$X = 6.5 \text{ years}$$
5. **c. 4.1 years.** This problem has to be solved in two parts. You first have to estimate the duration of the company after the investment, based upon the current value of the company and the value of new investment:
Duration of assets = $6 (15/25) + 2 (10/25) = 4.4$ years
Then solve for the duration of the new debt
$$5 (5/15) + X (10/15) = 4.4$$
$$X = 4.1 \text{ years}$$