



2017 Finals: Section 2 - Information Pack

Section 2: Funding Fun

40 marks available in this Section – Available time is 80 minutes

INTRODUCTION

You are an analyst helping your company prepare its purchase bid for the 30-year concession of a State-owned infrastructure asset that has been put up for sale. You have been provided the outline of a financing model which includes 10 scenarios of Inputs, and 10 scenarios of Operating Cash Flow taken from a colleague's forecast operations model.

For each of the Input scenarios, most assumption values have been provided, but one or two from each scenario will need to be solved for to find the **optimal value**, subject to the other values provided.

The values that may need to be solved for are:

- First Debt Repayment Date
- Sculpted DSCR
- Debt Drawdown amount
- Equity Investment amount
- Required Rate of Return (also known as the Equity IRR)

Your task will be to build the necessary additions to the model so that it can identify the Optimal missing values for the selected scenario.

For the 1st and 2nd dot point items, Optimal values are defined as:

- If solving for First repayment date, the latest possible date; or
- If solving for the Sculpted DSCR, the largest possible DSCR

That still allows the debt to be repaid by the Latest allowed Debt Maturity Date, without the DSCR ever falling below the Sculpted DSCR value in any given quarter.

For the 3rd, 4th and 5th dot point items, Optimal values are defined as:

- If not provided with the Required Rate of Return, the values that maximise the Equity IRR, which will then become the Required Rate of Return
- If provided with the Required Rate of Return, the values that maximise the Purchase Price whilst ensuring that the Equity IRR is not less than the Required Rate of Return.

Build your model adhering to the included Details, and then answer the Questions.

Further conditions ("Requirements of a Solved Model") are listed at the bottom of the Inputs worksheet.

QUESTION SUMMARY

Questions 1 to 20 are based on the provided input scenarios.

Questions 21 to 23 may require you to change some of the existing user-variable input values from certain scenarios in order to answer.

Precision of Answers:

If submitting a dollar value, give your answer rounded to the nearest thousand dollar (*i.e.* 0 decimal places when working in units of [\$'000]). There is no need to write "k" or ",000" at the end.

If submitting a DSCR value, give your answer to 3 decimal places

If submitting a percentage rate, give your answer as a percentage to 3 decimal places (e.g. 11.543%)

If submitting a date, give your answer rounded to the nearest day. (That's a joke...)

Answer all questions by writing on the provided Question and Answer Sheet



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DETAILS

1. Purchase Date Cash Flows

On the Purchase Date, the debt facility is drawn with a single drawdown and a single equity investment is made (there are no other equity investments at any time). The sum of these two amounts equals the **Purchase Price** which immediately goes to the State. In other words, net cash flow for the Purchase Date is zero.

2. Interest Calculations

Interest is calculated on the last day of each quarter as

*(Opening Balance in Quarter) * (Rate % p.a.) * (Days in Qtr) / 365*

This applies to both the interest owed on the Debt, and the interest earned / (owed) on any positive / (negative) cash account balance.

3. Refinancing Calculations

The debt is refinanced at three points throughout the term. The refinanced amount is the outstanding debt balance immediately after principal repayment on the refinancing date. A fee is charged on the refinanced amount, and this fee is capitalised into the debt balance. For clarity, there is no fee payable on the fee itself. The fee is only charged on the old balance that is being refinanced.

4. Debt Interest Payments

Interest owed is always paid in full at the end of each quarter for the entire life of the debt facility.

5. Debt Principal Repayments

Debt is repaid on the last day of each quarter, commencing on the First Debt Repayment Date, continuing every quarter until the facility is fully repaid. All debt must be paid off on or before the Latest Allowed Debt Maturity Date. The amount of each repayment must be sculpted so that the DSCR is constant for all quarters during the repayment term. The only exception to this is the final repayment quarter, which can have a higher DSCR. The repayment amount in any quarter cannot exceed the quarterly opening balance of the facility. Redraws are not permitted.

6. DSCR

The DSCR is defined only for quarters where the principal repayment amount is not zero. It is equal each quarter to the quarterly value of $CFADS / (Net\ Interest\ Expense + Principal\ Repayments)$

7. CFADS

CFADS (Cash Flow Available for Debt Service) is provided by the 'Operations' worksheet for each quarter. For clarity, the definition of CFADS does not include any carryover opening balance.

*Hint: Assumptions have been set so that CFADS will be relatively smooth and healthy, and will always be at least as large as Net Interest Expense * Sculpted DSCR*

8. Net Interest Expense

Defined as: For each quarter, interest owed on Debt plus interest owed on cash account overdraft balance (if any) less interest earned on cash account positive balance (if any).

9. Cash Flow Waterfall

The Cash Flow Waterfall should include only the following items:

(1) CFADS; (2) Interest Revenue/(Overdraft Expense) on Cash Balance; (3) Interest Expense on Debt; (4) Principal Repayments; (5) Equity Distributions

All cashflows are assumed to occur on the final day of each quarter.

10. Equity Distributions

Distributions occur on the last day of each quarter every June during the Asset life, and at the Asset Expiration Date. All available cash (including the carry over opening balance) is distributed each distribution date, so long as the cash balance is positive immediately prior to distributions.

11. Equity IRR

The Equity IRR should be calculated using the XIRR function, and consider the cashflows to/from equity between the Purchase Date and the Asset Expiration Date inclusive.