



Round 1 Section 3 - Case Study Information Pack

Section 3: Case Study – When It Rains It Pours

Relates to Questions 29-40

45 Marks available in this Section - Estimated time is 45-65 minutes

INTRODUCTION

All the inputs mentioned below are provided in the workbook for this case study.

Your company wishes to better understand how its financing cashflows would be affected in times of cash shortage. They have asked you to model their two senior debt facilities, two reserve accounts and shareholder loan, and then test how the debts are repaid and reserves are funded under different profiles of cash generated from operations.

Your model should be semi-annual with semi-annual periods ending in June and December. All debt payments and reserve account transfers occur at the end of a semi-annual period. The model should take as its starting point the debt and account balances on 31 December 2017, and should run through to 31 December 2035.

Questions 29 to 34 relate to the target payments and balances and can be answered based on the details given for the individual facilities and accounts.

Questions 35 to 39 relate to the actual payments made under five different profiles of available cash, and will require you to have implemented the priority of payments. The cash profiles you are required to test are increasingly restricted, such that under the first profile everything is fully funded and target balances are met, and under the fifth profile an overdraft is drawn.

Prepare your model and then use it to answer the given questions. When finished, please upload your workbook (Question 40).

SENIOR LOANS

There are two senior loans.

Senior 1

The loan balance on 31 December 2017 is \$10,000,000.

The loan should be repaid in equal principal repayment amounts with the final repayment occurring in the period ending 31 December 2023.

The interest rates applied to the loan are given in the table below, and interest should be paid as incurred. The annual interest rates should be converted to semi-annual rates by multiplying by the number of days the rate is applied for in the semi-annual period and dividing by 365.

From	To	Rate (per annum)
1 January 2018	14 December 2019	4.35%
15 December 2019	4 April 2021	5.5%
5 April 2021	24 October 2023	5.8%
25 October 2023	31 December 2023	6.2%

Senior 2

The starting balance for the senior 2 loan is \$10,000,000.

From June 2024 onwards principal repayments of \$1,000,000 or the outstanding loan amount (whichever is smaller) should be made each payment date.



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The interest rate for the Senior 2 loan is 6% per annum. This should be converted to a semi-annual rate by dividing by two. Until 31 December 2023 interest incurred should be added to the balance of the loan (interest should be incurred on capitalized interest in subsequent semi-annual periods). From 1 January 2024 onwards interest should be paid as incurred.

TARGET RESERVE ACCOUNT BALANCES

The target debt service reserve account balance is the total senior debt interest and repayments due in the next semi-annual period. Assume that this account is fully funded on 31 December 2017.

The target MMRA balance is 100% of the next twelve months' major maintenance costs, 66% of the costs in the twelve months after that, and 33% of the costs in the twelve months after that. The profile of forecast major maintenance costs is given in the Assumptions tab of the provided workbook for this case study. Assume that this account is fully funded on 31 December 2017.

SHAREHOLDER LOAN

On 31 December 2017 the shareholder loan balance is \$3,000,000. The interest rate for the loan is 9% per annum, and this is converted to a semi-annual rate by dividing by two.

The target shareholder loan balance is the balance that would result if the loan were an annuity that was fully repaid on 31 December 2030 (i.e. if the total interest and repayment amount in each semi-annual period was constant between June 2018 and December 2030).

PRIORITY OF PAYMENTS

If the balances of the debt service reserve account (DSRA) and major maintenance reserve account (MMRA) at the start of the semi-annual period exceed the target balance for the semi-annual period any excess should be added to the cash generated from operations. Available cash should then be used according to the following rules:

1. The senior interest payments and repayments should always be made. If insufficient cash is generated from operations to do this, the company does the following in this order until the senior debt payments are made in full:
 - Withdraw money from the debt service reserve account
 - Withdraw money from the major maintenance reserve account
 - Draw an overdraft in the cash account (it is NOT possible to draw an overdraft in the reserve accounts).
Any overdraft drawn should be carried forward from period to period until it is repaid from available cash. Assume that no interest or other costs are incurred related to the overdraft.

Any available cash left after the senior debt has been serviced should then be used in the following order:

2. Repay any overdraft drawn in the cash account in previous periods
3. Fund the MMRA up to the target balance
4. Fund the DSRA up to the target balance
5. Pay any interest due on the shareholder loan. Any interest for which there is not enough cash to pay should be added to the loan balance.
6. Pay off any outstanding shareholder loan which exceeds the target balance for that semi-annual period.

Any cash that is remaining after the debts have been fully serviced and the reserve accounts are fully funded is then paid to the shareholders as a dividend.



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QUESTIONS

Question 29

What is the interest rate for the Senior 1 loan in the period ending 31 December 2019? [3 marks]

- A. 2.21%
- B. 2.22%
- C. 2.23%
- D. 2.24%
- E. 2.25%
- F. 2.26%
- G. 2.27%
- H. 2.28%
- I. 2.29%

Question 30

What is the total interest paid for the Senior 1 loan? [3 marks]

- A. \$1,613,196
- B. \$1,613,197
- C. \$1,613,198
- D. \$1,613,199
- E. \$1,613,200
- F. \$1,613,201
- G. \$1,613,202
- H. \$1,613,203
- I. \$1,613,204



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Question 31

What is the final repayment amount for the Senior 2 loan? [6 marks]

- A. \$257,601
- B. \$257,602
- C. \$257,603
- D. \$257,604
- E. \$257,605
- F. \$257,606
- G. \$257,607
- H. \$257,608
- I. \$257,609

Question 32

What is the target DSRA balance on 30 June 2023? [3 marks]

- A. \$858,318
- B. \$858,319
- C. \$858,320
- D. \$858,321
- E. \$858,322
- F. \$858,323
- G. \$858,324
- H. \$858,325
- I. \$858,326



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Question 33

What is the target MMRA balance on 31 December 2020? [4 marks]

- A. \$157,104
- B. \$157,105
- C. \$157,106
- D. \$157,107
- E. \$157,108
- F. \$157,109
- G. \$157,110
- H. \$157,111
- I. \$157,112

Question 34

What is the target shareholder loan balance on 30 June 2025? [5 marks]

- A. \$1,689,272
- B. \$1,689,273
- C. \$1,689,274
- D. \$1,689,276
- E. \$1,689,275
- F. \$1,689,277
- G. \$1,689,278
- H. \$1,689,279
- I. \$1,689,280



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Question 35

Using Profile 1 of cash available from operations, what are the total dividends paid to the shareholders? [4 marks]

- A. \$914,772
- B. \$914,773
- C. \$914,774
- D. \$914,775
- E. \$914,776
- F. \$914,777
- G. \$914,778
- H. \$914,779
- I. \$914,780

Question 36

Using Profile 2 of cash available from operations, what is the final repayment amount for the shareholder loan? [4 marks]

- A. \$191,462
- B. \$191,463
- C. \$191,464
- D. \$191,465
- E. \$191,466
- F. \$191,467
- G. \$191,468
- H. \$191,469
- I. \$191,470



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Question 37

Using Profile 3 of cash available from operations, in how many semi-annual periods is the DSRA underfunded? [4 marks]

- A. 4
- B. 5
- C. 6
- D. 7
- E. 8
- F. 9
- G. 10
- H. 11
- I. 12

Question 38

Using Profile 4 of cash available from operations, what is the maximum underfunding for the MMRA? [4 marks]

- A. \$13,980
- B. \$13,981
- C. \$13,982
- D. \$13,983
- E. \$13,984
- F. \$13,985
- G. \$13,986
- H. \$13,987
- I. \$13,988



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Question 39

Using Profile 5 of cash available from operations, what is the maximum overdraft balance drawn at any point in time? [5 marks]

- A. \$1,252,176
- B. \$1,252,177
- C. \$1,252,178
- D. \$1,252,179
- E. \$1,252,180
- F. \$1,252,181
- G. \$1,252,182
- H. \$1,252,183
- I. \$1,252,184

Question 40

Please upload your workbook from this section.



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Answers

29	E	2.25%
30	B	\$1,613,197
31	I	\$257,609
32	C	\$858,320
33	E	\$157,108
34	A	\$1,689,272
35	F	\$914,777
36	F	\$191,467
37	G	10
38	A	\$13,980
39	D	\$1,252,179
40		N/A