FINANCIAL MODELLING OF WORKING CAPITAL

Introduction: Trade Debtors and Trade Creditors

"Trade Debtors" represent cash amounts due to be paid by customers who have purchased goods / services from the company. Lower "Debtor days" means cash is being received faster from customers.

"Trade Creditors" refers to customers / suppliers to which cash is owed. Higher "Creditor days" means cash remains in the company for longer.

It is important to recognize the "Trade Debtors" and "Trade Creditors" in a cashflow model because it captures the cash cycle of the company, i.e. not all of the "Revenue" actually earned in a given period is received in the same period and that not all "Cost" are paid as soon as they are incurred.

Funding of Working Capital?

Managing the day-to-day operating cash cycle is important to every business in order to ensure a profitable operation. If a business pays creditors before it receives payment from debtors then short term Working Capital constraints need to be resolved.

Means of funding include:

- Cash / Saving Account; or
- Overdraft Facility; or
- Working Capital Facility; or
- Short Revolving Credit Facility; or
- Other type of Debt Finance

Modelling Working Capital in a Model

Key Variables

The key variables in modelling Trade Debtors and Trade Creditors are:

Key variables in modeling Working Capital	
Trade Debtors	**Trade Creditors**
• Variable 1: Revenue	• Variable 1: Costs Payable
• Variable 2: Debtor days	• Variable 2: Creditor days

How to Model the Working Capital?

The most transparent and efficient way to model Working Capital in a Cashflow Model is to calculate per period "Working Capital Adjustments".

The "Debtors Adjustment" is the difference between "Revenue Receivable" and "Revenue Received", while the "Creditors Adjustment" the difference between "Costs Payable" and "Costs Paid".

Screenshot #1 illustrates the calculation.

Screenshot #1: Modelling Working Capital

"If you would like to learn more about financial modelling of Working Capital and other items relating to the financial statements, then you should attend the Project Finance Modelling (B) course."

Nick Crawley, Managing Director
Navigator Project Finance

Public Courses by Navigator Project Finance

- Project Finance Modelling (A)
- Project Finance Modelling (B)
- Debt Modelling Masterclass
- VBA for Financiers

Linking Working Capital Calculations to the Financial Statements

Income Statement

The Revenue Receivable and Costs Payable should be linked directly to the Income Statement.

Cashflow Waterfall

The Revenue Receivable and Costs Payable from the Income Statement are linked to the Cashflow Waterfall. Then the "Working Capital Adjustments" are added to the line before Cashflow Available for Debt Service ("CFADS").

Balance Sheet

"Trade Debtors" are usually recoverable within one year, so are the "Trade Creditors" which are usually due within one year. "Trade Debtors" shall be entered into the "Current Assets" below other Assets items which are more liquid (such as Cash, Debt Service Reserve Account). "Trade Creditors" shall be entered into the "Current Liabilities".

	Jul-10	Oct-10	Jan-11	Apr-11	Jul-11
Period Start	Jul-10	Oct-10	Jan-11	Apr-11	Jul-11
Period End	Sep-10	Dec-10	Mar-11	Jun-11	Sep-11
Construction					
Operations					

Extract of "Financial Statements"

Income Statement					
Revenue Receivable	130.0	135.0	140.0	145.0	150.0
Costs Payable	(46.0)	(47.0)	(48.0)	(49.0)	(50.0)
Cashflow					
Revenue Receivable	130.0	135.0	140.0	145.0	150.0
Costs Payable	(46.0)	(47.0)	(48.0)	(49.0)	(50.0)
Capex					
Tax					
Working Capital Net Adjustments	(1.0)	(1.3)	(2.0)	(1.0)	(1.0)
CFADS	83.0	86.7	90.0	95.0	99.0
Balance Sheet					
Current Assets					
Cash Bal C/f					
DSRA/c Bal C/f					
Trade Debtors C/f	42.4	44.0	46.7	47.8	48.9
Current Liabilities					
Trade Creditors C/f	(0.2)	(0.3)	(0.7)	(0.2)	(0.2)
Debt Bal C/f					

Screenshot #2: Linking Working Capital to Financial Statements

Common mistakes in modelling Trade Debtors and Creditors

- Complexity

As shown in this article, modelling "Trade Debtors" and "Trade Creditors" can be done in a transparent and efficient way.

Overcomplicating these calculations with a "one line approach" can easily hide any mistakes that are potentially made and thus damage the integrity of the whole cashflow modelling exercise.

- Incorrect linking back to the Financial Statements.

Problems with models where the timing resolution changes half way through the model – This can be solved by laying-out the number of days for each period as illustrated in Screenshot #1

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Variations in Modelling Working Capital

- Next Period Receipt / Payment:

In this method, it is assumed that the Revenue is received in the next period and so does the Costs are paid in the next period.

- % in Period N, N+1, N+2

This method calculates the "Revenue Received" / "Costs Paid" as % of "Revenue Receivable" / "Costs Payable" in Period N, N+1, N+2.

This is a Free Tutorial from Navigator Project Finance. If you have any feedback or suggestions for future developments we would like to hear from you!

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