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**Modeling
Cash Sweep**

**A Three Statement
Forecast Model**

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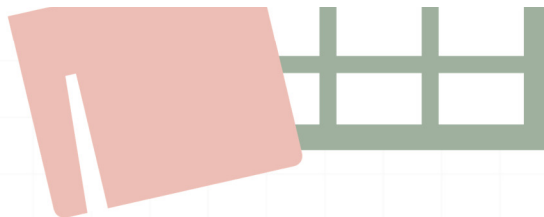**FINANCIAL EDGE**
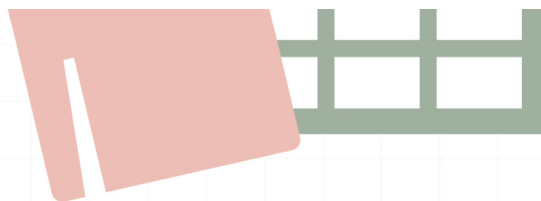
	REMEMBER TO HAVE THE **ITERATION SETTING TURNED OFF** BEFORE STARTING	
1	Input historical data for income statement and balance sheet	
2	Calculate ratios and statistics	
3	Decide on forecast assumptions	
4	Build the forecast income statement except for interest	
5	Build the forecast balance sheet except for cash, revolver and debt	
6	Build the cash flow statement using the rules of cash	
7	Plug cash into the balance sheet from the cash flow statement	
8	Build the debt and interest calculations	
9	Plug revolver and long term debt into the balance sheet	
10	Link the interest into the income statement and deal with the circular reference	

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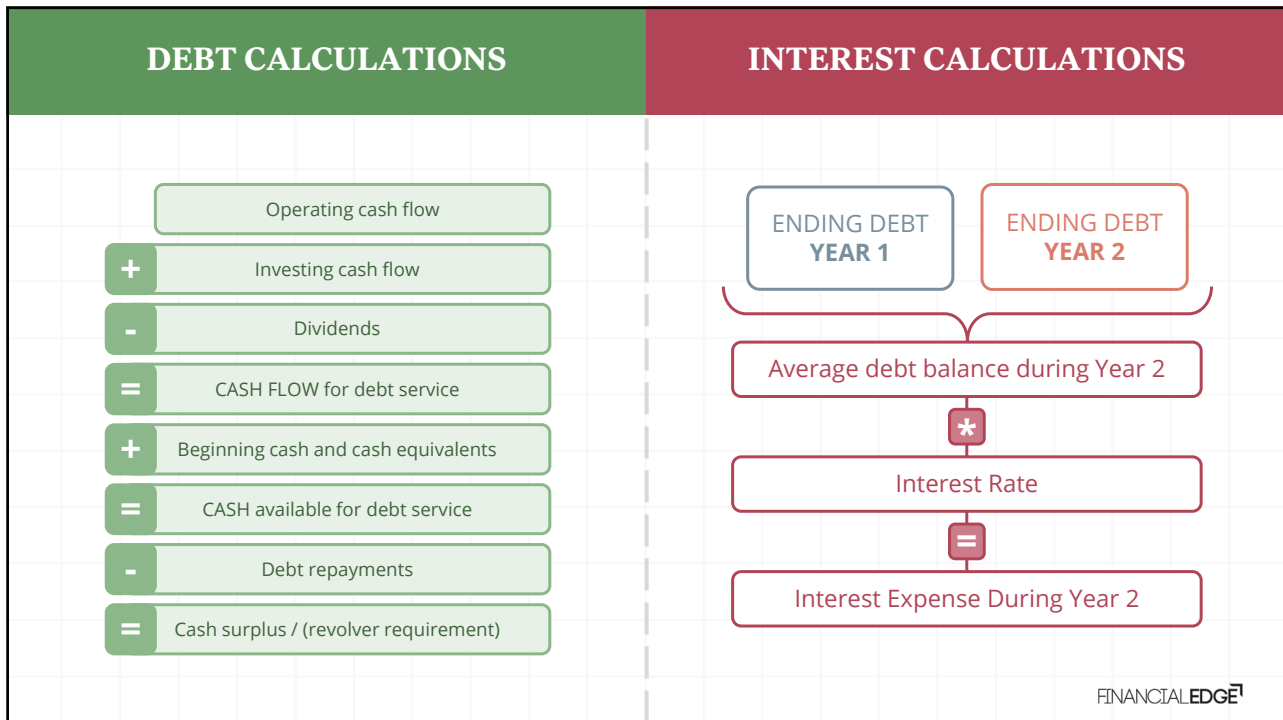# Historic Data – One Feed Rule

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Balance Sheet

Short term borrowings	2,000.0
Current operating liabilities	16,085.0
Total current liabilities	18,085.0
Long term debt	3,225.0
Other non current liabilities	5,820.0
Total liabilities	27,130.0
Total equity	120,331.0
Total liabilities and equity	147,461.0
Check?	0.0

Net Debt and Interest Calculations

Ending short term borrowings	2,000.0
Ending 2.125% Notes due on May 19, 2016	1,000.0
Ending 3.625% Notes due on May 19, 2021	1,000.0
Ending 3.375% Notes due on February 25, 2024	1,000.0
Ending capital lease obligation	225.0
Long term debt	3,225.0

Historic BS debt linked to back up calculations

Historic data input in back up calculations

HARD CODE ONLY ENTERED **ONCE**

Debt and Interest Calculations - Overview

DEBT CALCULATIONS	INTEREST CALCULATIONS

DEBT CALCULATIONS

Operating cash flow

+ Investing cash flow

- Dividends

= CASH FLOW for debt service

+ Beginning cash and cash equivalents

= CASH available for debt service

- Debt repayments

= Cash surplus / (revolver requirement)

INTEREST CALCULATIONS

ENDING DEBT YEAR 1   ENDING DEBT YEAR 2

Average debt balance during Year 2

* Interest Rate

= Interest Expense During Year 2

Cash Sweep – Revolver or Short Term Borrowings

Revolver / Short Term Borrowings

Cash available to service debt		1,150.0	1,025.0
Total mandatory debt repayments		(400.0)	(100.0)
Surplus cash after mandatory debt repayments		750.0	925.0
Less minimum required cash		(50.0)	(50.0)
Surplus cash / (short term borrowing requirement)		700.0	875.0
Beginning short term borrowings		200.0	0.0
Short term borrowings issuance / (repayment)		(200.0)	0.0
Ending short term borrowings	200.0	0.0	0.0
Interest rate		4.0%	4.0%
Interest expense		4.0	0.0
Cash available for accelerated repayments		500.0	875.0

Do not exceed debt due to avoid overpayment

Use = MIN (surplus cash, beginning ST borrowings)

Cash Sweep – Mandated & Accelerated Payments

Mandated and Accelerated Payments

Cash available for remaining accelerated repayments		500.0	875.0
Beginning term loan A		1,000.0	100.0
Mandatory repayment		(400.0)	(100.0)
Accelerated repayment		(500.0)	0.0
Ending term loan A	1,000.0	100.0	0.0
Interest rate		2.1%	2.1%
Interest expense		11.7	1.1
Cash available for remaining accelerated repayments		0.0	875.0
Beginning term loan B		850.0	850.0
Mandatory repayment		0.0	0.0
Accelerated repayment		0.0	(850.0)
Ending term loan B	850.0	850.0	0.0
Interest rate		3.6%	3.6%
Interest expense		30.8	15.4

Cash available is already AFTER the mandatory repayments and interest

Mandatory repayments are made, but may be reduced because of prior acceleration

Accelerated repayments are made if have debt to be repaid AND if have cash available

In calculating cash available, only include the impact from the accelerated, not mandatory payment above

In accelerated repayments, take care not to overpay the debt due

Accelerated repayment typically only possible for term loans NOT bonds or notes

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Revolver Detail

	Act.	Est.	Est.
Cash available to service debt		2,000.0	1,200.0
Total mandatory debt repayments		(1,225.0)	(1,500.0)
Surplus cash / (revolver requirement)		775.0	(300.0)
Beginning revolver		2,000.0	1,225.0
Revolver issuance (repayment)		(775.0)	300.0
Ending revolver	2,000.0	1,225.0	1,525.0

From **debt calculations**
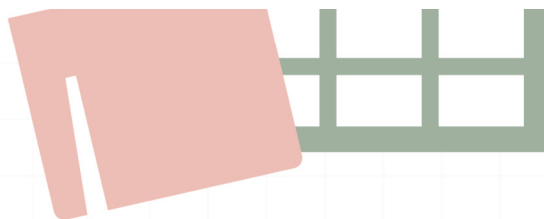
After **mandatory repayments**

From prior **ending balance**

Surplus cash drives a repayment up to the level of **beginning balance**

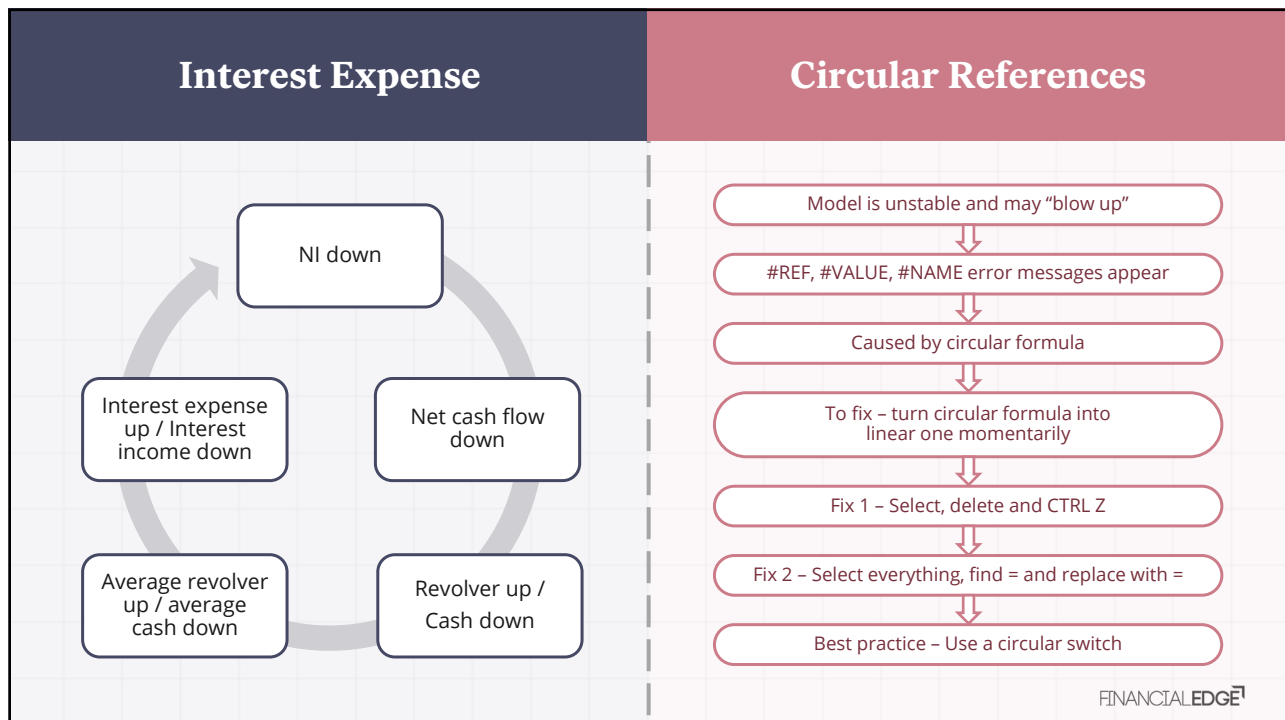Revolver requirement drives an **issuance**

Long Term Debt Detail

	Act.	Est.	Est.
Cash available for accelerated repayments		275.0	600.0
Beginning term loan A		1,000.0	325.0
Mandatory repayment		(400.0)	(325.0)
Accelerated repayment		(275.0)	0.0
Ending term loan A	1,000.0	325.0	0.0
Cash available for accelerated repayments		0.0	600.0
Beginning term loan B		850.0	850.0
Mandatory repayment		0.0	0.0
Accelerated repayment		0.0	(600.0)
Ending term loan B	850.0	850.0	250.0

After revolver issuance / (repayment) **AND** mandatory repayments

From **prior ending balance**

Per **loan documentation** up to the level of **beginning balance**

Lesser of amount owed and cash available for **accelerated repayments**

After revolver issuance / (repayment), mandatory repayments **AND** accelerated repayments on A notes

From **prior ending balance**

Per **loan documentation** up to the level of **beginning balance**

Lesser of amount owed and cash available for **accelerated repayments**

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Dealing with Circular References

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Interest Expense

- NI down
- Net cash flow down
- Revolver up / Cash down
- Average revolver up / average cash down
- Interest expense up / Interest income down

Circular References

- Model is unstable and may "blow up"
- #REF, #VALUE, #NAME error messages appear
- Caused by circular formula
- To fix – turn circular formula into linear one momentarily
- Fix 1 – Select, delete and CTRL Z
- Fix 2 – Select everything, find = and replace with =
- Best practice – Use a circular switch

Prepare for Handoff

1	Check that the output looks reasonable based on assumptions	✓
2	Ensure consistency of formatting: **formulas black, hard numbers blue**	✓
3	Is the layout **intuitive**	✓
4	Are complex calculations broken down into **steps?**	✓
5	Is the model **documented where necessary?**	✓
6	Is the **circular switch ON,** is **iteration ON**	✓
7	Is the model beauty saved? **(Ctrl + Home on every sheet)**	✓

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