Financial Risk

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Financial Risk Measures Capacity to Repay Lenders

- ***Balance sheet***, the measure of a company's obligations versus its asset quality
- ***Profitability or earnings***, the measure of the performance of the business
- ***Cash flow***, how a company generates cash to meet its obligations
- ***Flexibility***, withstanding fluctuations to deliver results

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Balance Sheet

Why is it important for credit analysis?

1. Accurately identify and quantify the existing and potential obligations
   - Not just the short term and long term debt
   - Project financing, asset-backed securities (such as receivables)
   - Off-balance sheet items such as pensions, debt of JVs
2. Measure the quality of the assets
   - Age, stability, cash flow generating ability
   - How much leverage was used to acquire those assets

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Finding Obligations On and Off the Balance Sheet

Debt
Overdraft
Notes payable
Short term debt
Commercial paper
Revolving credit facility
Current portion of long-term debt
Bonds
Bank loans
Loan notes
Debentures
Long term debt
Convertible debt (bond proportion only)
Capital / finance leases
Preference shares (if treated as debt)

Other obligations
Pension obligations
Guarantees of subsidiary, JV or Associate debt
Operating leases
Factored receivables
Derivatives not used in hedging

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More than just Adding Up the Debt

Current liabilities		
Trade and other payables	27	5,817.1
Advance billings		812.1
Current tax liabilities		255.0
Borrowings (unsecured)	28	1,846.2
Borrowings (secured)	29	34.0
Derivative financial instruments	18	9.2
Net deferred gain	31	20.8
		8,794.4
Non-current liabilities		
Advance billings		197.4
Borrowings (unsecured)	28	8,734.4
Borrowings (secured)	29	49.5
Derivative financial instruments	18	149.5
Net deferred gain	31	375.0
Deferred tax liabilities	12	515.1
Other non-current liabilities	32	289.8
		10,310.7

The debt is rather easy to find once you have become familiar with the various terminology

Derivatives, which can also appear as assets should be examined. Any that are not hedging related should be counted as an obligation

Other non-current items are typically related to employee benefits and should be examined in the Notes

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The Detail Will Always Be in the Notes

2019	Group Fair values Assets S$ Mil	Liabilities S$ Mil
Fair value and cash flow hedges		
Cross currency swaps	414.6	95.5
Interest rate swaps	11.1	59.8
Forward foreign exchange contracts	12.9	1.5
Derivatives that do not qualify for hedge accounting		
Cross currency swaps	-	-
Interest rate swaps	-	1.9
Forward foreign exchange contracts	0.1	-
	438.7	158.7
Disclosed as –		
Current	155.1	9.2
Non-current	283.6	149.5
	438.7	158.7

32. **OTHER NON-CURRENT LIABILITIES**

	Group			Company		
	31 March 2019 S$ Mil	31 March 2018 S$ Mil	1 April 2017 S$ Mil	31 March 2019 S$ Mil	31 March 2018 S$ Mil	1 April 2017 S$ Mil
Performance share liability	**5.4**	7.0	7.0	**5.4**	7.0	7.0
Other payables	**284.4**	288.1	317.2	**21.1**	24.4	16.7
	289.8	295.1	324.2	**26.5**	31.4	23.7

Other payables mainly relate to accruals of rental for certain network sites, long-term employee entitlements and asset retirement obligations.

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Pension Adjustments – Moody's

EXHIBIT 3

Financial Statement Adjustments in the Analysis of Non-Financial Corporations

Balance Sheet	We record as debt the amount by which the defined benefit pension obligation is underfunded. Our adjustment recognizes the gross underfunded pension obligation (PBO or DBO – Fair Market Value of assets) as debt, and removes any remaining intangible pension assets and liabilities.
Income Statement	» We remove all as-reported defined benefit costs (or income) with the exception of the actuarially determined current period service cost. » We attribute interest expense to pension-related debt using an interest rate that represents a theoretical average borrowing cost for each issuer based upon its rating. » We recognize interest cost on the PBO or DBO in excess of interest attributed to pension-related debt in other non-recurring income/expense; add or subtract actual losses or gains on pension assets (but only in an amount up to the interest cost after attributing interest expense to pension-related debt) in other non-recurring income/expense.
Cash Flow Statement	We reclassify employer cash pension contributions in excess of service cost from CFO to a financing cash outflow. We do not adjust the cash flow statement if pension contributions are less than the service cost.

Source: Moody's: Financial Statement Adjustments in the Analysis of Non-Financial Corporations

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Pension Adjustments – S&P

Postretirement employee benefits and deferred compensation	
Balance sheet	Debt: The net balance sheet asset or liability position (or funded status) is calculated as the balance sheet PRB assets minus PRB liabilities. If the funded status is positive, debt is not adjusted. If the funded status is negative, this amount is tax-effected and added to debt. In some jurisdictions, the tax benefit is realized before funding the deficit or paying benefits, for example, when the liability is accrued for tax purposes. In such cases, the expected tax benefit only includes tax benefits that have not yet been received.
Income Statement	Operating income: Add to EBIT and EBITDA the total amount of PRB costs charged to operating income, less the current service cost for companies that do not report under U.S. GAAP. Interest: PRB interest is the net interest cost as reported by companies under IFRS, or interest expense less expected return on plan assets for companies under U.S. GAAP. If PRB interest is a cost, we include it in adjusted interest expense (we do not reduce interest expense if PRB interest is an income item).
Cash flow statement	None

Source: S&P Corporate Methodology: Ratios And Adjustments

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Leverage Ratios

Ratio	Measures	Comment
Debt* / Equity**	Leverage Debt funding relative to owner funding	Need to understand existing indebtedness prior to approving new loans
Debt* / Debt + Equity**	Leverage Debt funding relative to total funding	Variation on above. Debt as % of capital structure.
Debt* / Total Assets	Leverage relative to asset base	How conservatively or aggressively a company finances its assets

* Can also calculate including off-balance sheet debt
** Can also calculate use market value of equity

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Breaking Down the Assets

Asset	Comment
Cash & Marketable Securities	The highest level of certainty
Operating Working Capital Accounts receivable, Inventory Deferred taxes, Other current assets **Less:** Accounts payable, Accrued expenses Other current liabilities, Tax liabilities	Can have high degree of certainty but not without risk. This can also be negative, which is not necessarily a bad thing
PP&E	Higher degree of risk and volatility. Depends on nature, age, productivity, etc
Intangible assets	High degree of risk and volatility. Goodwill is useless, intangibles can be undervalued
Financial assets - Associates	Very high degree of risk and volatility. Depends on control, nature of assets, obligations and guarantees

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Assessing the quality of OWC

Accounts Receivable
- What is allowance for bad debts/loss reserve policy?
- Are there risk concentrations?
- Is the company collecting?

$$\frac{\text{Ending receivables}}{\text{Sales}} \times 365$$

Inventory
- LIFO or FIFO?
- Old LIFO layers?
- How significant are manufacturing costs in inventory?
- Is it turning over?

$$\frac{\text{Ending inventory}}{\text{COGS}} \times 365$$

Deferred Taxes
- Any NOLs?
- Aggressive tax policy?
- Tax exposure items lurking?

$$\frac{\text{Taxes expense}}{\text{Cash taxes paid}}$$

Accounts payable
- Does the company maintain good relations with suppliers?
- Are they getting paid?

$$\frac{\text{Ending payables}}{\text{COGS}} \times 365$$

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Fixed Assets in Credit Analysis

- Fixed assets need to be replenished and will increase in a growing company
- Capex has two components: expansion (or growth) and maintenance.
- Capitalized interest which results from financed asset purchases is typically removed from fixed assets cost and added to interest expense/operating cash flow.

Fixed asset turnover	Capex Ratio	Average Age of PP&E	Reinvestment Ratio
$\frac{\text{Sales}}{\text{Net fixed assets}}$	$\frac{\text{Capital expenditure}}{\text{Sales}}$	$\frac{\text{Accumulated dep'n}}{\text{Gross PP\&E}}$	$\frac{\text{Capital expenditure}}{\text{Depreciation}}$
Efficiency of PP&E	Investment relative to sales	Appraises the age of PP&E	Are depreciating assets being replaced
Is the company investing wisely in assets	Increasing ratio suggests growth	Aging asset base requires investment	Assessing whether a company is investing for future growth

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Income Statement

Why is it important for credit analysis?

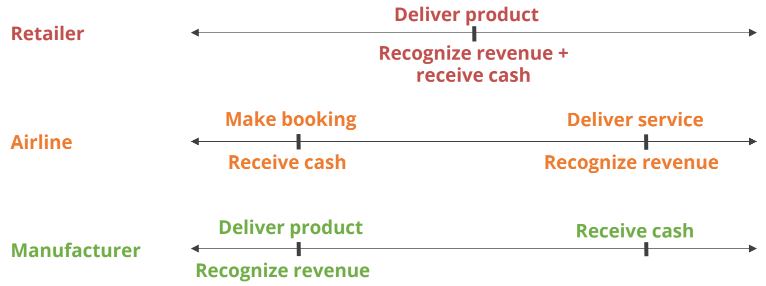
- Financial performance measured by earnings
- Businesses are valued by multiples of earnings
- Key metrics include EBIT & EBITDA
- EBITDA is often defined and used in debt covenants and therefore must be understood correctly
- EBITDA is used as a proxy for cash flow and is a function of revenues
- Earnings (including EBIT and EBITDA) are NOT CASH
- Important to understand the link between earnings and cash

Revenue Recognition

Recognize revenue upon delivery or performance of service

Matching principle recognises costs at same time as revenue

Revenue (IS) and cash flow (CFS) are often at different times



Presentation

Profit before financing and government costs

Income Statement	
Sales	X
Cost of goods sold (COGS)	(X)
Gross profit	X
Selling, general and admin (SG&A)	(X)
Operating profit	X
Interest/finance expense	(X)
Profit before tax	X
Tax expense	(X)
Net income	X

Making/buying the product

Supporting the business

Financing the business

Paying the government

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EBIT Equals Operating Profit?

We have typically seen EBIT and EBITDA in a valuation context

Accounting

Operating profit
(incl. D&A)
(inc. non-recurring)

+Non-core
+/- non-controlled (equity income)
+ Interest income
- Interest expense
- Taxes
Net Income

EBIT

Operating profit
(incl. D&A)
(inc. non-recurring)

+/- Non-recurring
+ Non-core
+/- non-controlled

EBITDA

Operating profit
(incl. D&A)
(inc. non-recurring)

+ D&A
+/- Non-recurring
+ Non-core
+/- non-controlled

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EBIT Equals Operating Profit?

The S&P credit definition is different to the valuation definition

Accounting	EBIT	EBITDA
Operating profit (incl. D&A) (inc. non-recurring)	Operating profit (incl. D&A) (inc. non-recurring)	Operating profit (incl. D&A) (inc. non-recurring)
+Non-core	+/- Non-recurring	+ D&A
+/-Equity/JV income	+/- Non-core	+/- Non-recurring
+ Interest income	+/- Equity/JV income	+ Equity/JV dividends
- Interest expense	+ Interest income	
- Taxes		
Net Income		

EBIT: Operating earnings +/-non-recurring + affiliate/equity income +interest income + nonoperating or non-core income

EBITDA: Operating earnings + D&A +/-non-recurring + dividends from affiliates/equity inv.

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Cleaning EBIT/EBITDA

Historic EBIT/EBITDA can help predict future EBIT/EBITDA… but only if non-recurring items are removed

- Large gains/losses on sale of subsidiaries
- Restructuring / reorganisation
- Severance costs
- Impairment / write down
- Fine / Penalty
- Litigation costs
- M&A fees
- Integration costs
- Many others… Check MD&A/Notes

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Depreciation and Amortization

D&A always in the cash flow statement

Cash flows from operating activities:		
Net earnings	$	4,554
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation and amortization		4,061

D&A often includes hidden impairments. Always check footnotes

Footnote detail	
Depreciation	2,968
Amortization	913
Impairment	**135**
Total	4,016

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Understanding Income Statement Metrics

Sales	Growth: volume vs price, acquisitive / organic ? Patterns: cyclical, seasonal, secular?	Customer concentration, end markets? Accounting: treatment and quality? Key industry and macro trends?	Sales growth
- Operating costs	Fixed vs variable costs? Level of operational gearing ?	Relationship with suppliers? Commodity/FX risk ?	Gross profit/Sales
EBIT	Margins ?	ROIC ?	EBIT/Sales
+ D&A			
EBITDA	Margins ?		EBITDA./Sales
– Taxes – interest	Fixed charges		EBITDA/interest
FFO	Funds from Operations. (A cash flow metric to be discussed later!)		

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Using EBITDA in Credit Analysis

- Loan agreements often include strict covenants which refer to EBITDA
- EBITDA must be clearly defined by the Lender as its definition varies from entity to entity
- EBITDA is a proxy for cash flow but it is not actual cash flow
  - Ignores changes in working capital, capex, taxes
- Most accurate and less manipulated by lower tier credits

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Cash Flow Adequacy

Why is it important for credit analysis?

- Cash is what is paid to lenders to service and payback debt
- Cash and cash flow are the most valuable attributes of a company
- Less risk involved in lending to companies with strong operating cash flow
- Key metrics include Funds from Operations (FFO), Operating cash flow and discretionary cash flow
- **EBITDA is a proxy for cash flow but it is not actual cash flow**
  - **Ignores changes in working capital, capex, taxes**

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Cash Flow Categories

Operating activities

Investing activities

Financing activities

Assets		Liabilities and Equity	
Cash	10.0	Short-term debt	10.0
Short-term investment	20.0	Finance leases	5.0
Accounts receivable	50.0	Accounts Payable	45.0
Inventories	45.0	Taxes payable	10.0
Prepaid expenses	10.0	Accrued expanses	8.0
Other current assets	5.0	Notes payable	20.0
		Commercial papers	10.0
Total current assets	140.0	Total current liabilities	108.0
		Long-term debts	200.0
Net PP&E	300.0	Other long-term liabilities	80.0
Intangibles	50.0	Total liabilities	388.0
Goodwill	70.0	Common stock	30.0
Financial investments	10.0	Additional paid in capital	100.0
Deferred tax assets	15.0	Retained earnings	87.0
Other long-term assets	10.0	Treasury stock	(10.0)
Total assets	595.0	Total liabilities and equity	595.0

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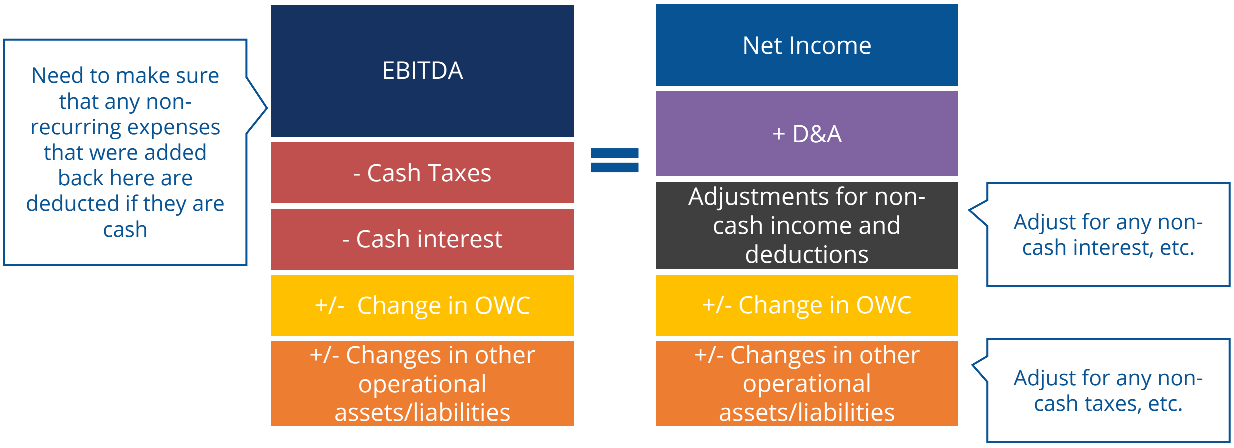
How to Get to Operating Cash Flow



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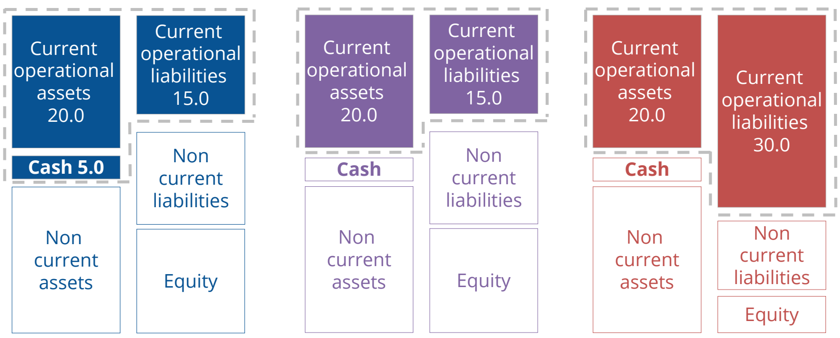
Working Capital and Operating Working Capital



Working capital

Current assets less current liabilities

Positive operating working capital

Requires funding

Negative operating working capital

Provides funding

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Days Ratios

$$\text{Receivables days} = \frac{\text{Ending receivables}}{\text{Sales}} * \text{Number of days of sales}$$

$$\text{Inventory days} = \frac{\text{Ending inventory}}{\text{Cost of goods sold}} * \text{Number of days of COGS}$$

$$\text{Payables days} = \frac{\text{Ending payables}}{\text{Cost of goods sold}} * \text{Number of days of COGS}$$

Average balances can be used to calculate the ratios. Average balances are commonly used by credit analysts, ending balances for forecasting

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Change in Days Ratios

Working Capital

	Year 1	Year 2	Year 3
Receivable days	30.0	29.0	24.0
Inventory days	19.0	22.0	25.0
Payable days	34.0	32.0	26.0

Increased **inventory days** More funds required

Decreased **receivables days** Less funds required

Decreased **payable days** More funds required

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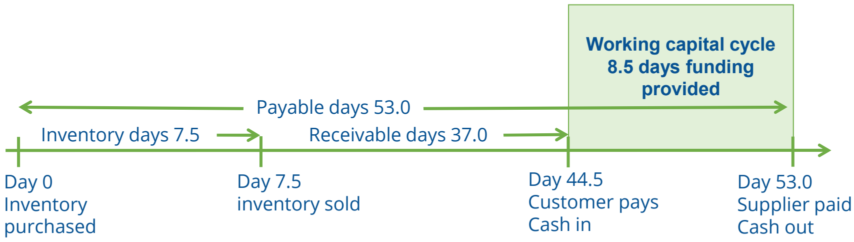
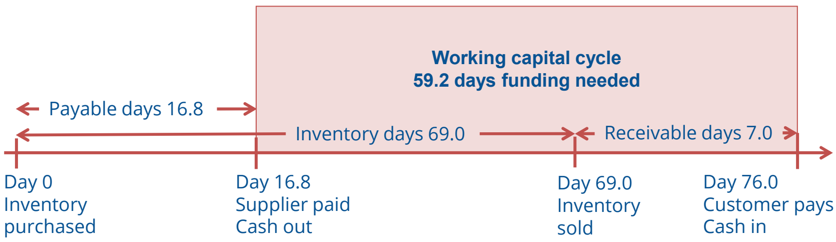
Working Capital Cycle

Just In Time Manufacturer	Year 1
Inventory days	7.5
Receivable days	37.0
Payable days	53.0
Working capital cycle	(8.5)



Working Capital Cycle

Home Improvement Retailer	Year 1
Inventory days	69.0
Receivable days	7.0
Payable days	16.8
Working capital cycle	59.2



Financial Risk – Cash Flow Metrics

Funds from operations	Estimates a company's inherent ability to generate recurring cash flow from its operations independent of working capital fluctuations. **Issue:** Estimates the cash flow available to the company before working capital, capital spending, and discretionary items such as dividends, acquisitions, etc.
Operating cash flow	Cash generated by the core operations of the business **Issue:** Ignores requirement to replace fixed assets for future growth
Free operating cash flow	Cash generated by the core operations of the business less capex **Issue:** Ignores the possibility that debt will contractually mature
Leveraged cash flow	Cash generated by the core operations of the business less capex less debt maturities **Issue:** Ignores that shareholders might expect annual dividend payments
Discretionary cash flow	Cash generated by the core operations of the business less capex less dividends **Issue:** Captures dividends even though these rank lower than interest repayments

Financial Risk – Cash Flow Metrics

Generic cash flow statement	
Net income	100.0
+ D&A / noncash items	20.0
+ / - Changes in OWC	(30.0)
Operating cash flows	**90.0**
- Capex	(40.0)
+ / - Disposals and acquisitions	5.0
Investing cash flow	**(35.0)**
+ / - issuances & repayments of debt	(20.0)
- Dividends	(50.0)
- Share repurchases	(10.0)
Financing cash flows	**(60.0)**
Net cash flows	**(5.0)**

Operating cash flow (OCF) *Pull straight from CFS*	90
Funds from operations (FFO) = OCF - Changes in OWC	90 + 30 = 120
Free operating cash flow (FOCF) = OCF - Capex	90 - 40 = 50
Levered cash flow (LCF) = OCF-IC - debt repayments	90-35- 20 = 35
Discretionary cash flow (DCF) = FOCF - Dividends	50 - 50 = 0

Financial Risk – Cash Flow Adequacy

Cash flow ratios

- Total debt / EBITDA
- FFO / Total debt
- OCF / Total debt
- FOCF / Total debt
- DCF / Total debt
- EBITDA / Interest expense
- (FFO + interest) / Cash interest

Some lenders may use other metrics. Moody's prefers FFO to other cash flow metrics as they see it as purer. Management can often use OWC to smooth over volatility.

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Liquidity Events

- Large debt repayment due either because of refinancing issues or cross-default, MAC clause, missed covenant, etc.
- Dramatic setback in business due to tainted product, viral outbreak, terrorist attack etc. that decreases customer confidence in a sector or across the globe
- Materially adverse litigation judgement
- Management lapse, such as VW emissions scandal
- Desirable acquisition opportunity
- Capex emergency

Why Liquidity Matters

Liquidity is the most common cause of default. Lack of liquidity can cause defaults in otherwise healthy companies

Cash flow statement	
Funds from operations	150.0
+ / - Changes in OWC	(10.0)
Operating cash flows	140.0
- Capex	(40.0)
Free operating cash flow	100.0
Dividends	0.0
Discretionary cash flow	100.0
+ / - Disposals & acquisitions	0.0
Pre-financing cash flow	100.0

- The business is profitable and generates healthy cash flows…
- But, how can a debt repayment of 500 be covered
  - Balance sheet cash (if available)?
  - Asset sales (if available)?
  - Refinancing (if possible) ?

Need to understand the sources and uses of liquidity

Another Perspective

Sources	Uses
• Cash and liquid investments • Forecasted FFO (if positive) • Forecasted positive changes in OWC • Asset sales (when predictable) • Undrawn bank lines maturing > 12m • Cash injections from government or shareholders	• Forecasted negative FFO • Expected capex • Forecasted negative changes in OWC • Debt maturities (JV/Affiliates as well) • OPEB top-up needs • Debt repay if 3 notch downgrade • Contracted acquisitions • Expected shareholder distributions under a stress scenario

Sources/Uses

Exceptional	= 2x over next two years
Strong	= 1.5x over next year then 1x
Adequate	= 1.2x over next year
Less than adequate	<1.2 over next year
Weak	<1 over next year

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Liquidity Ratios

Total current assets / Total current liabilities	**Current ratio:** Measuring the same thing as OWC. Ideally this would be > 1 meaning the company can cover its short term liabilities with short term assets
Cash+cash equivalents+receivables / Total current liabilities	**Quick ratio:** More conservative that current ratio. Excludes inventories and prepayments As these may not readily convert to cash
Cash + cash equivalents / Total current liabilities	**Cash ratio:** Most conservative ratio as only includes assets with a guaranteed value

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